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ABSTRACT

This study examines the North Carolina program for the academically gifted. Students (N=142), parents (N=83), counselors (N=70), teachers (N=71), principals (N=50) and superintendents (N=17) were surveyed. Findings report widespread interest in increased curriculum planning, academics, and science and mathematics. Many criticisms of the identification process arose, on both theoretical and technical grounds. Participants generally seemed enthusiastic about the program, but felt it required additional funding and other improvements, including improved program evaluation, greater participation by minority students, greater flexibility in administering funds, and more general access to computers. The issue of acceleration versus enrichment is also discussed. Question-by-question analyses of the survey results of each of the six groups studied make up the bulk of the document. (PB)

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Academically Gifted

North Carolina
Department of Public Instruction
Academically Gifted Study

A Study to Provide Information Concerning the Most Effective Means of Furthering the Education of Academically Gifted Students

Bob Etheridge, State Superintendent of Public Instruction

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Bob Etheridge, State Superintendent of Public Instruction

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Preface

The purpose of this report is to examine the critical issues in the education of the academically gifted student as viewed by those students, their parents, and the teachers, educational administrators, and other professional staff who are directly concerned in supplying that education. Gifted education as a field of instruction is developing rapidly, but has not yet reached a place where firm answers can be given to all questions. This study represents an effort to draw the issues a little clearer, give voice to concerns, and describe the various program alternatives that present themselves at this time.

Research studies are intended not to make policy, but to provide information that will aid in policy making. It is hoped that this study will perform that function for the various groups who have responsibilities in defining the instructional program for academically gifted students.

Bob Etheridge
State Superintendent of Public Instruction

Acknowledgments

The research staff wishes to acknowledge the generous contributions made to this report by students, their parents, teachers, principals, school counselors, local school superintendents, and other school and LEA staff. Educational research studies involving surveys are made possible only by the interest and cooperation of participants who, although not always agreeing on details, always agree on the importance of good education for students.

The study has also benefited by the advice of staff members of the Division for Exceptional Children, especially Sylvia Lewis, David Mills, and Lowell Harris, and numerous other NCDPI staff members who have supplied information essential to the research. We also wish to thank Lyn Aubrecht of Meredith College for his advice and continuing interest. Special thanks are due to Regional School/ Community Relations coordinators, who conducted the personal interviews of AG students in Grade 3.

The contributions of others does not imply an endorsement of the research report. The researchers must take responsibility for the final product: William Inman, Eleanor Sanford, Lisa Powell, Shirley Stoll, Peggy Goodwin, Robin Colby, and Barbara Corey, of the Research Section of the Division of Accountability.

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Chapter 1—Introduction

In North Carolina in 1988, approximately 5.8% of all public school students were designated as academically gifted (*Statistical Profile, North Carolina Public Schools*, 1988). Academically gifted (AG) students are entitled to receive special instruction through the Group Education Program for the academically gifted (*Basic Education Program*, 1988). An expansion of the AG program was planned (1989-91 Expansion Budget Request). In connection with expansion, questions were raised as to the most efficient use of additional funds to aid gifted students. Of particular interest is the differential utility of programs that fall in the general categories of "enrichment" and "acceleration." The purpose of this study is to deal with those issues to the extent that relevant facts can be discovered.

Brief legal foundation of program

The legal foundation of the special education program for academically gifted children is set forth in the General Statutes of North Carolina, Article 9, Chapter 115C, Sections 106-117, and Section 121. It is further described in the North Carolina Administrative Code, Title 16, Chapter 2, Section 1500 and in *PROCEDURES Governing Programs and Services for Children with Special Needs* (Division of Exceptional Children, 1988). In these documents, academically gifted (AG) children are defined as "children with special needs" who are entitled to receive the benefits of "special educational opportunities."

Special funding for AG students is supplied by the state to the local school administrative unit (alternatively called LEA or school district), currently (1988-89) at the rate of $587 per identified student, at a maximum rate of funding not to exceed 3.9% of total student average daily membership (calculated according to a special formula). The allocation, once made, becomes part of the LEA's general fund for its exceptional children program and may be used in any part of that program—not just for AG students.

At the school level, the program for academically gifted children is administered through a school-based committee, which identifies eligible students and makes recommendations for placement; an administrative placement committee, which makes the final placement decisions; and an individualized education program committee, which is responsible for the preparation of the Group Education Program (GEP) or the Individualized Education Program (IEP). (When two or more AG students have the same needs, a GEP is prepared for them. If only one student of a type is identified, an IEP may be used. Each teacher who teaches the AG students is to be given a copy of the GEP or IEP for the purpose of instructional guidance.) Student identification, placement, development of the GEP or IEP, and provision of the requisite instructional services are a local administrative unit (LEA) responsibility. The law requires "periodic evaluation of the benefits of the programs to the children and of the nature of the children's needs after placement."

Background

For purposes of this discussion, the term "gifted program" will be used to designate that portion of a student's educational program that is operated by special funds for gifted students, above and beyond the funds allocated for the education of all students. The term "academically gifted student" is a categorical description of certain students who meet requirements set by school-based committees. AG students are entitled to special educational advantages aimed at helping them reach personal potentials not attainable in the regular educational program.

Interaction of type of program and type of giftedness. It could be expected that special programs for the gifted might be closely related to the types of giftedness possessed by the students. Anyone familiar with the century-old argument concerning general and specific intelligence, however, would not be surprised to find that the category of giftedness frequently offers little guidance as to program differentiation and, when it does, may lack reliability and validity. (For example, see the comments by Leona Tyler and others in the December 1986 issue of the *Journal of Vocational Behavior*.)

The most common differentiation of academic aptitude is that of verbal and mathematical aptitude. In elementary and secondary education, however, where the students are being systematically exposed to both verbal and mathematical studies, aptitude tends to look very general. Correlation, not compensation, is the rule (Tyler, 1986). A recent attempt to revitalize the theory of multiple intelligences (Gardner, 1983) lacks supporting evidence. Perkins and Simmons (1988) comment that, "without engaging the technical details of Gardner's and rival theories, a reservation one might have about its explanatory power is simply that the theory of multiple intelligences cannot be established."

Differentiation of aptitudes becomes more difficult as a student's interests, for whatever reason, become more specialized and achievement tends to overshadow aptitude. The independence suggested by remarkable performance in one ability and only average or low performance in the other tends to be relatively uncommon and raises the question of whether the difference, when found, may be due to early specialization rather than an innate predisposition to excel in one topic and not another.

Another condition leading to a misclassification occurs when a student's scores fall on the border of a cutoff score. Simply by chance, for example, a verbal test score may fall on one side of the cutoff and a mathematics test score fall on the other. The classification rules, if strictly applied, would mistakenly classify the student as having only one of the two abilities at a gifted level. The conclusion actually supported by the results would be that the student had general ability at a marginal cutoff level. Some data on this topic will be presented in the results section of this report.

In the absence of valid and reliable differentiation from identification testing—which may correctly indicate that the student's giftedness falls in a general cognitive area and could be developed in many directions—the GEP may take shape from many sources: personal inclinations of students, instructional decisions of teachers, guidance from LEA program policy, the availability or lack of a particular program, etc.

Given these possibilities, the advantages offered to AG students usually vary from group to group as the GEP's are especially tailored to the interests and needs of individuals and the instructional opportunities available—although the Basic Education Program remains the foundation of the students' study. Therefore, each GEP may be regarded as unique. The advantages offered in the GEP's, however, can usually be described as falling into two broad categories: enrichment and acceleration.

A program of *enrichment* for AG students implies that the level of curricular content offered to the average student will be maintained, but will be expanded in breadth and depth for the AG student. In reading about enrichment programs, it is important to note exactly how an author defines enrichment. In most instances, enrichment will involve curricular materials or activities of a type not offered to all students, but these materials or activities will not take the place of anything offered in the basic curriculum. The AG student following a typical enrichment program will proceed through the standard curricular offerings at the same rate as the average student.

A program of *acceleration* for AG students implies that the student will follow the same curricular sequence as the average student, but at an accelerated rate. A program of acceleration may involve an enriched curriculum, but not necessarily so. Skipping a grade, for example, could be one element in a program of acceleration. The accelerated student in an integrated program may finish some or all of the secondary curriculum ahead of schedule and be ready for college-level courses while still of high school age.

The program for an individual student, however, may be neither exclusively enrichment nor acceleration, but some mix of both. This complication to evaluation is made even more equivocal by the fact that the basic educational program has strong elements of both enrichment and acceleration built into it, and the alternatives offered in the regular program are likely to figure strongly in the AG student's academic program. Acceleration and enrichment coming from the regular program, however, must be distinguished from the gifted program in order to satisfy the needs of evaluation.

Acceleration in the Regular Education Program. A clear illustration of the elements of enrichment and acceleration in the regular educational program is found in the high school mathematics sequence. Within regular funding, five levels of higher mathematical training are offered. The most complex is called the accelerated sequence. In the accelerated sequence, students take Algebra I (in Grade 8), Geometry, Algebra II, Advanced Mathematics, and Calculus. At lesser levels of advancement is a sequence that does not include Calculus; one that includes neither Calculus nor Algebra II; one that includes only Algebra I—with a variation that allows two years to complete the course; and finally a sequence that includes none of these courses, all concentration going into practical mathematics. Approximately one-fourth of all high school students do not take Algebra I or do not finish the second year of the two-year course (and therefore do not take any higher mathematics); about one-third take the General Mathematics course (*Statistical Profile, North Carolina Public Schools*, 1988). These facts suggest that the proportion of advancement into any higher mathematics is between two-thirds and three-fourths of the student population. Only five or six percent advance as far as Calculus.

The situation in mathematics is also evident in science. Approximately 45% of all students advance into Chemistry, 13% into Physics. The same situation occurs in the humanities, but not as overtly, because the humanities are not differentiated in the formal curriculum to the degree of mathematics and science. Courses in English, however, are differentiated in practice to accommodate the differing levels of language skills found in the student population. The levels of ability may be assumed to be as diverse as those found in mathematics and science.

These elements of acceleration that are so apparent in high school are present in Grades K-8, but are more difficult to define. Frequently, students are held over in the same grade for a second year. Rarely, however, are they advanced a year. Grade levels are frequently differentiated into classes of different ability levels, and students within classes are grouped by ability for instruction, but we have no way of knowing whether this serves enrichment or acceleration, or both. The diversity defies description, and without description, evaluation is problematical.

Enrichment in the Regular Educational Program. So far, we have described elements of acceleration in the regular curriculum. Strong elements of enrichment also exist. For example, Advanced Placement classes, taken for college credit, are taught at a more complex level than most similarly-designated classes. But even in the most common of classes, Algebra I, for example, the average student studies approximately 87 objectives, while the more able student's program is enriched to include up to 111 objectives. Note that this is all Algebra I, not an acceleration into the next course. In Geometry, the grouping of classes by ability is practiced in over 35% of all schools (Division of Research, 1986). Ability grouping can be used either for enrichment or acceleration, but usually for enrichment, since acceleration implies completing part of the curriculum ahead of schedule. Taking an advanced rather than the regular class in Geometry does not put the student ahead of the regular schedule; therefore it does not qualify as acceleration.

Julian Stanley noted in his study of gifted students (Stanley, George, and Solano, 1977) that, according to research, 1% to 2% of the student population is intellectually capable of handling Algebra II by the fifth or sixth grade. The problem of meeting the gifted student's needs does not lie simply in taking a curricular offering earlier in his or her academic career, however. Unusually gifted students may, for example, be able to complete an Algebra course in half a year. But scheduled Algebra courses usually last an entire year. Will Algebra I absorb the equivalent of 50% enrichment, or should the gifted student have the option of completing Algebra I in half an academic year and going on to Geometry the second half?

We should not expect to find definitive answers to these questions, either in the literature review that follows or in the research study reported here. We should be able, however, to understand the issues better and be more prepared to outline some possible courses of action.

Approach to the literature

A research study is concerned with systematic description and predictive principles, and the first step should be to define the current status of such information. In the case of the education of gifted students, that is a short task. McVey (1989) calls the research base "thin, or almost nonexistent." Fetterman (1988) comments that "no overarching theoretical framework exists for the development of gifted and talented programs," which makes the development of programs a "vulnerable and shaky proposition at best." Reis (1989) notes that "a general consensus seems to exist among psychologists that the study of giftedness remains relatively unexamined." Little systematic or predictive data exist for giftedness for several reasons.

First, experimental or cross-sectional studies that can be completed in short periods of time are most productive when the subject is well-defined and the main variables have been identified, which is not the case with giftedness. Second, the more appropriate longitudinal type of study is difficult to fund and to execute because of the long-term commitment required. Only a few such studies exist, the best-known being the one begun by Terman about 1920, concerning which reports have been made during a period of over 50 years (e.g., Stanley, George, and Solano, 1977).

The Terman study is curiously bereft of major revelations, although it put to rest the compensatory theory of giftedness: that giftedness in one area would be compensated for by inferiority in another. Terman's gifted people were generally superior in all respects—physically, mentally, and emotionally. But none exhibited the hallmark of genius, that remarkable, unexpected contribution to society that in some manner forever changes the way people think or behave. Perhaps that is too much to expect, because genius, requiring the confluence of many factors, may be too rare to have probabilistic representation among Terman's 1,528 cases of high-ability persons.

Besides the technical difficulty of doing relevant studies on giftedness, other reasons have contributed to the lack of data. Some reasons have to do with a bias against singling out any category of students for special attention. In the balance between educational needs and the social desire for equality, the social desire frequently weighs heavier in the balance. This tends to reduce the number of special programs for study, since gifted students will not be singled out for a different educational treatment.

These caveats having been presented, the review of the literature will proceed, first with the research, and then with program descriptions.

The research

When the ERIC system was searched over the past five years for studies pertaining to educational programs for academically gifted students, the search identified 54 studies concerning acceleration and 78 studies concerning enrichment (with some overlap in the listings) (Bowman, 1988a, 1988b). The large majority of the studies are descriptions of programs for gifted students, generally of the testimonial type. In the acceleration area, a few studies deal with experimental results.

Acceleration. Kulik and Kulik (1984) bring together the results of 26 studies dealing with the acceleration of gifted students and reached the conclusion that the students, if chosen properly, do at least as well academically and developmentally as the older students they join. Stanley and McGill (1986) reach similar conclusions from a study of 25 accelerated students who subsequently attended Johns Hopkins University. Although the data base remains thin, the research supports the view that accelerated gifted students have no more, and probably fewer, personal adjustment problems than they would have if they were not accelerated.

Judging from the small number of gifted students who are grade-accelerated, a bias may be assumed to exist against the practice of acceleration. Howley (1987) speculates on its source, and concludes that two of the sources were misapplications of the practice in the 1930's and the Gesell Institute's well-publicized views that children advanced through age-graded stages of development and should not be rushed through a stage. Stage theories of development have been around since the turn of the century, but have not fared very well experimentally or in the light of common sense (e.g., Brainerd, 1978).

Perhaps the most important advocate of acceleration is Julian Stanley, who has been concerned with the continuing analysis of the Terman sample of gifted students and the direction of the Study of Mathematically Precocious Youth (SMPY), the latter having its beginning in 1971. Stanley sees the advantage of acceleration over enrichment in instructional focus, specifically, that teaching a topic to one student is difficult if the teacher must teach other topics to other students at the same time (Benbow, 1986).

No one, however, advocates the use of acceleration as a one-shot procedure or a routine means of pushing students along. Students, however gifted, can be advanced beyond their ability to cope by inopportune scheduling. Acceleration must be planned intelligently, taking the students' wishes into account, else more harm than good will be done. Advocates recommend that acceleration be planned across the whole curriculum, so that the student does not accelerate one year and decelerate in later years. That admonition is rarely followed. Ability grouping in elementary schools (see Peterson, *Review of Educational Research*, 57(3), 1987) is also relevant to this problem.

In acceleration, suggestions are frequently made that some enrichment of the accelerated class curriculum be planned for the benefit of the gifted student, who presumably would be able to take a broader view of the topic. The use of enrichment in this case may only reflect the fact that, although the student is permitted to study the material earlier than other students, the material itself is paced for regular students, not gifted students, leading to "enrichment" as a time filler. Other data suggest that the effects of enrichment may be of short duration and that instructional efforts could perhaps be more effective if directed toward advancing the student through the regular curriculum at a faster pace.

Enrichment. Among the 78 studies dealing in one way or another with enrichment, none deals with its effect on academic achievement, which is the focus for the academically gifted student. Almost all of the studies are descriptions of various kinds of enrichment programs or general descriptions of programs in which enrichment is a factor.

In general, four kinds of enrichment can be discerned:

- enrichment that involves adding an entirely different class, such as a foreign language class—which is a confusing use of the term enrichment and which should probably be discussed under a different topic;
- enrichment that extends a given topic, but is entirely academic in content;
- enrichment that is meant to be intellectually stimulating but has no clear academic focus—frequently a project, "activity," or field trip of some sort; and

- enrichment that is directed toward what is variously called "teaching the student to think," learning higher order or critical thinking or cognitive skills, expressing creativity, or acquiring strategic knowledge.

In order to have a practical way to administer the formal curriculum, curriculum developers place subject matter in a scope and sequence. Basically, acceleration speeds up the sequence and enrichment extends the scope. The fourth type of enrichment named above, "teaching the student to think," suggests that the curriculum is being supplemented with an additional series of courses that are not included in the original scope and sequence. But that original impression falters before the great variety of activities that are being discussed under that rubric.

The point of this current debate concerning the teaching of "thinking skills" is whether some general, non-trivial principles can be abstracted from many unalike domains of knowledge and taught in isolation from the domains, later to be brought into play to make sense of some previously unstudied domain of knowledge that otherwise would be logically incomprehensible. In a sense, the skills of reading, English composition, and mathematics fall into that category. They tend to be regarded, at least conceptually, as topics that can be taught in isolation from any particular subject matter. They certainly aid in the process of thinking.

Some other concepts that might be considered thinking skills include the scientific method (literature summary, experimental design, statistics, observation), and some of its more obvious applications to everyday life. These procedures are frequently taught in the abstract. Whether study skills, such as the SQ3R (survey, question, read, recite, review) method, which has been in common currency in counseling for perhaps 40 years (Robinson, 1946), are thinking skills in the current parlance is not as clear. Sometimes Bloom's *Taxonomy of Educational Objectives* (1956), which contains levels of thinking skills logically derived by Bloom and his co-workers, becomes a framework for discussion. Guilford's (1967) structure of intellect theory, and particularly his theoretical use of the concepts of convergent and divergent thinking, may provide the background for a course in thinking. Beyond these notions are other ideas that keep recurring, despite their having been thoroughly discredited, such as the belief that the mind is like a muscle and can be strengthened by hard thinking, or that a study of geometry or logic will fit the mind for everyday decision-making. Finally, higher-order thinking skills in some cases are made to appear to be synonymous with the ability to apply knowledge to practical matters. Overall, the conceptual texture of discussions regarding thinking skills is so loose that it is hard to choose a name to characterize what is being discussed—or even to know if it is one thing or many. Many discussants seem to be unaware of the long history of the study of thought and blunder into blind alleys that have long been identified and marked for avoidance.

Some of the recent discussions have gotten away from the term "higher order thinking skills," which is somewhat of a vernacularism, and substitute the term *general strategic knowledge*, which can be contrasted with *domain-specific strategic knowledge* and *domain-specific knowledge*. Domain-specific knowledge consists of factual knowledge. Domain-specific strategic knowledge consists of knowledge about how to use domain-specific knowledge. They are usually taught together. No one contests the legitimate value of these two types of knowledge.

General strategic knowledge consists of strategic knowledge that has broad applications across many domains of knowledge. It would appear that the application of mathematics to practical problems is a general strategic knowledge application, as would be the verbalization of a problem or its submittal to scientific test. The SQ3R method of study would appear to have general applications across many domains of knowledge. Beyond that, the types of general strategic knowledge having demonstrable utility grow very small in number, or are debatably specific rather than general. For example, a comparison of Bloom's general taxonomy with the specific taxonomy devised by Klopfer (1971) for scientific inquiry reveals so little in common between the two taxonomies that persons engaged in scientific inquiry would gain nothing by knowing of Bloom's taxonomy and might actually be hindered from understanding scientific inquiry by trying to apply it.

The same problem arises when we talk about teaching a student to think divergently. Will thinking divergently about geometry, for example, help the student think divergently about government? Since no general principles of any scope are involved, would this not be an instance of the fallacy of treating the mind like a muscle, to be strengthened through use?

The literature on the topic provides some light, but not many answers. Several summary reports will be described below.

The first analysis is by Perkins and Salomon (1989), who give a history of general strategies as the key to good problem solving and detail the objections that led to disenchantment with that view. They note that "the case of generalizable, context-independent skills and strategies that can be trained in one context and transferred to other domains has proven to be more a matter of wishful thinking than hard empirical evidence." This fact is recognized by Educational Testing Service, which, acting under a grant for the National Assessment of Educational Progress project of the U.S. Department of Education, has proposed an achievement test design that "is based on a definition of higher-order thinking that is discipline-based, under the belief that thinking skills should be taught (and therefore measured) in conjunction with subject content, rather than in isolation" (National Assessment of Educational Progress, 1989). Brooks and Dansereau (1987) state that "since general training on problem-solving skills has not proven successful in the past, the developers of problem-solving courses should tailor the training to those skills required in a particular academic or technical area."

The search for generalizable cognitive skills dies hard, however, and Perkins & Salomon (1989) hold out hope that the philosopher's stone will still be found to transmute base facts to golden wisdom. Brooks and Dansereau (1987) report some success with study techniques designed to motivate and structure study of academic material, the majority of these techniques being based on Robinson's SQ3R technique of study, which was mentioned above. The essence of the method can be grasped in five minutes or less. Dansereau has described a more involved program, which requires the student to write elaborate, formal analyses of the materials being studied. These efforts cannot be regarded as breaking new conceptual ground, however, but appear to be merely extensions of the note-taking routines that most conscientious students employ following the admonition to "take notes."

Ennis (1989) tries to clarify the current view of domain specificity by characterizing it as having three principles:

> Background knowledge is essential for thinking in a given domain.
>
> Simple transfer of critical thinking dispositions and abilities from one domain to another domain is unlikely.
>
> General critical thinking instruction is unlikely to be effective.

Ennis believes that most cognitive psychologists hold with the first two principles, with some disagreement on the third. It is clear, however, that evidence supporting the effectiveness of general critical thinking instruction is lacking. Ennis calls for a restructuring of the problem and more research.

Alexander and Judy (1988) summarize information on the interaction between domain-specific and strategic knowledge. Their analysis of the literature accents the difficulty of obtaining critical information about the topic: problems with definitions of terms, sampling procedures, measurements, etc. Conclusions are presented in the form of hypotheses because of a lack of conclusive data. The authors first note that "higher order thinking skills," to use the vernacular, are of no use in the absence of a good base of facts. In general, the authors found some support for an interaction. The more complete the mastery of the facts, the more successful the application of strategy. Strategy contributes to the usefulness of a knowledge base, good strategy contributing more. As knowledge of facts increases, the role of strategy is reduced, however. Recognizing the correct match between facts and strategy is the mark of an expert. But these statements rest on incomplete data and any generalization may fail in a particular case. Even if one makes a fairly conservative estimate of effects—that good strategic knowledge applied to extensive domain specific knowledge usually leads to good results—the discovering of the strategies applied by the expert will not necessarily lead to the student's becoming an expert. Thought is, after all, an unconscious process, and the expert is able to report only on what comes to consciousness, which may be only the form, not the substance, of thought. For instance, looking both ways before crossing the street is a good specific strategy, but it would not be unusual to see a small child look both ways and then walk into the path of a passing car. One must see the relationships between strategies and facts to make use of them.

This subject is most properly considered under the topic of transfer of training (or learning) (e.g., see Cormier & Hagman, 1987). The question is, "What does the learning of one task contribute to the ability to perform another task?" In its degenerate form, where the two tasks are identical, it is simply a learning question: What does a second or third trial contribute to learning? Here, however, the two tasks vary from a little to a great deal in their nature, and the transfer of learning may be projected to a near or far time. Some general strategies may work well in a near time, but be of no use at all if a longer period of usefulness is projected. Also, a distinction must be made between surface and structural similarities. Systems analyses often lack a firm grounding in domain facts and do not properly recognize all of the essential structural similarities or dissimilarities, or are misled by surface similarities that have no real causal connections. One must be especially careful of generalizations across time when time is not a representative variable, and across similarities when an adequate knowledge base is not evident.

To summarize the state of research concerning domain specific and general strategic knowledge, we can first note that the performance of a task almost always involves the need for both facts (domain-specific knowledge) and how to use them (strategic knowledge). If performance of a second task is required, we can expect the successful performance of the first task to predict the successful performance of the second task to the extent that the two tasks share identical elements of requisite knowledge—factual and/or strategic. In short, the theory of identical elements (Thorndike, 1903) still holds: *Transfer of learning occurs between two tasks only to the extent that the two tasks contain identical structural elements.* To that we need to add *and sometimes not then.* Frequently, fewer identical elements are shared by different tasks than we would believe at first glance, and even problems that seem to be mirror images of one another are often not recognized as such. The identical elements principle has great significance for enrichment programs dealing with general cognitive skills instruction, inasmuch as it supports the infusion principle of instruction. The infusion principle requires that strategic knowledge and domain-specific knowledge be taught together, not separately.

Intellectual characteristics of the gifted. It should be noted that nothing in the literature demonstrates any convincing qualitative differences between students who are identified as gifted and those who are not. The differences are ones of quantity, not kind. In a summary of this topic, Foster (1986) concludes:

> The metaphor of the gift is ... probably misguided. Little evidence exists to support the notion that giftedness defines a predispositional qualitative endowment that distinguishes certain privileged individuals from the mass of humanity.

Berliner (1986), in a reply to Foster, believes that "more" leads to a difference in "kind", but offers no evidence as to what this qualitative difference might be or how instructional programs should differ in kind to accommodate these hypothesized qualitative differences in students.

Program descriptions

Even though giftedness has no substantive data base or generally accepted theoretical framework, description and conjecture abound. One recent summary publication is the book *Critical Issues in Gifted Education—Defensible Programs for the Gifted,* the first of a projected series of books about the gifted to be edited by Maker (1986). This book was reviewed in the AERA's *Educational Researcher* by McVey (1989), who comments,

> It has been common practice in gifted education to rely heavily on either personal experience with highly able learners or anecdotal findings as grounds for having met these two requirements (that programs be appropriate for the gifted student and different from the regular program). Overall, the chapters do not stray far from this tradition, and I believe this is unfortunate.

The first section of this book is devoted to a discussion of whether gifted students are qualitatively different from other students, and whether educational programs for gifted students should be qualitatively different from other programs. The extent to which there is disagreement on this can be understood from the comments of one outspoken contributor. He sees the field of differential education for the gifted as being

> in a state of degeneration and disarray characterized in substantial proportion by excessive numbers, excessive spontaneity, excessive and senseless diversity; that within this ill-begotten condition beginning students are victimized by a plethora of weakly founded, internally inconsistent, and loosely framed "approaches," "models," "plans," and "programs" all too often aggressively promoted through shameless devices, not of communication but of emotional contagion (concocted language, media, ritual, song); and that unless and until scholars and practicing educators alike—teachers, curriculum developers, program evaluators, researchers, teachers of teachers—assume responsibility and take necessary actions to restore the "common sense" (Abraham) and professional integrity (intent, logic, substance) which gave rise to the movement, continuing degeneration [can bring further problems]. (Ward, 1986)

Following the book's two sections on qualitative differences in students and curriculum is a section on acceleration and enrichment as program possibilities. Acceleration appears to be more clearly understood and more generally supported by data, albeit selected cases, than enrichment. Enrichment is seen to suffer from a lack of clear definition of programs and outcomes, but has the advantage of not being as much trouble to implement as a program of acceleration.

The final section of the book is concerned with "Policies, Program Development, and Evaluation: What Can We Defend, and How Should It Be Defended?" The editor concludes that there is "general agreement among the various authors about the practice of acceleration: it has certain advantages for certain gifted learners when put into practice appropriately and combined with techniques to accommodate learner needs or learning styles." Regarding enrichment, "the first, and most important, requirement for enrichment to be defensible is that it be clearly defined," because enrichment programs taken as a group contain many indefensible practices. Defensible programs, the editor says, should be appropriate, articulated, clear, consistent, comprehensive, responsive, unique ("any categorical or special program must be unique"), and valid. Educational programs for the gifted fall short most often in evidence of validity (as noted by McVey above).

Among other global summaries of giftedness practices are the results of a national survey of educational programs for the gifted and talented, conducted by the Richardson Foundation (Cox, Daniel, and Boston, 1985). Among 16,000 school districts that were solicited for information, the final self-selecting sample consisted of 1,172 districts, which does not permit generalizations to the whole. Recommendations were made under the headings of administration (plan well and be flexible in expectations), discovering talent (expand to include able learners), program (plan a comprehensive program at all levels, with outreach to other resources), staff development and teacher support (train staff in counseling, instruction, and efficient record-keeping, and provide clerical help), and evaluation (integrate evaluation with the program and include external as well as internal evaluation). Most of these recommendations, however, do not distinguish gifted programs, inasmuch as they would be appropriate initiatives for any good educational program.

Renzulli (1986) assumes the task of assembling and editing expositions of major *"Systems and Models for Developing Programs for the Gifted and Talented."* Fifteen programs are described. The editor makes no attempt to summarize them, to analyze their common characteristics, or to make judgments as to their relative worth or specificity of application. They have in common, however, that they reflect the "search for unique solutions" to a differentiated education for highly able youth. Most, although not all, accent process (general critical thinking skills, for example) over the general education curriculum.

In the book *Excellence & Equality*, Fetterman (1988) describes the California program of gifted education and considers a case study of a Peoria, Illinois education program for the gifted that was found to be non-discriminatory although the proportion of minority students was not representative of the population. He goes on to describe in general terms the types of gifted programs found in other societies. He accents quality, commitment, leadership, diversity of curriculum and instruction, and the "whole-person" approach. The idea is again offered that "gifted and talented programs are designed to provide a qualitatively different educational experience."

From these reports, one warning should receive close attention. In the design and dissemination of special education programs for gifted students, the research indicates that a danger is present if the desire to provide a qualitatively different educational experience leads to the hasty implementation of programs that are educationally invalid. General strategic knowledge instruction (teaching students "how to think"), frequently the topic of enrichment programs, has proven to be very problematic. The initial research has not been encouraging, and while many researchers are still optimistic about the area, most advise caution until more is known about what can be taught effectively. A note of caution is also appropriate in the case of acceleration programs: It is not enough to offer one or two years of acceleration and leave the students to their own devices; a program of acceleration must be articulated from kindergarten to early graduation or Grade 12 in order to avoid placing the gifted student at risk of failure or frustration.

Examples of generally sanctioned programs for North Carolina academically gifted students are described in *Excellence for the Future: Program Options for the Academically Gifted* (Division for Exceptional Children, 1988a). One way in which the programs can be categorized is in the settings in which they occur. Those options for AG students are outlined by the Division of Exceptional Children as follows:

In a Regular Class:

Direct services:	The teacher of the gifted comes to the regular classroom and works with gifted students there.
Indirect services:	The teacher of the gifted supplies ideas, materials, and other resources to the regular classroom teacher, but the regular teacher does the teaching.
Grade acceleration:	The student moves up to a higher grade level (grade skipping).
Content acceleration:	The student does not move to a higher grade level in all subjects, but only in a subject or subjects in which the student demonstrates a specific aptitude.

In a Resource Class:

In the resource class, AG students are taught by an AG teacher for part of the day.

In a Separate Class:

In the separate class, AG students are taught by an AG teacher for most of the day.

Other Program Alternatives:

Pull-out Resource Room: In the pull-out class, AG students are pulled out of the regular classroom for special instruction on a regular basis.

Advanced Placement: Students are offered courses that prepare them for advanced placement or course credit in college. To earn credit, students must pass a College Board AP examination.

Additional alternatives: J. S. Renzulli's Enrichment Triad model, Consultation (which accents integrating the gifted student into the regular classroom), Mentorship (specialist in the community), Independent Study, Content (curriculum) Modification, and The International Baccalaureate program.

Early graduation. Early graduation of gifted students, one possible consequence of program acceleration, is not listed as a program outcome. This is an extension of the *philosophical bias* evident against grade acceleration. A similar bias does not exist against retention in grade, although the preponderance of research does not support retention in grade to further the education of slow learners, and that which does tends to be unreliable (e.g., Peterson, De Gracie, & Ayabe [1987] and Smith & Shepard [1988])[*]. The fate of fast learners is even more uncertain. Their education frequently ends with a Ph.D., which now, according to some reports, may take seven years beyond the bachelor's degree. With two years' post graduate worked added to that, the educational stage of life may easily take 26 years, making the graduate over 30 years old before beginning a productive career. In some topics, that is not important; in others, it is intellectual suicide. The mathematical genius Gauss once remarked that he spent the rest of his life working out the implications of mathematical principles he discovered before he was 17 years old. Money market operators are regarded as being "over the hill" at age 30; their wits are simply too slow to take in the complexity and speed of the transactions. Einstein was 26 when he "published three papers that revolutionized man's image of the physical universe and helped lay the foundation for the nuclear age (Gamow and Bernstein, 1975). Is 26 years of study a necessary condition of competence in high technology, or would a much lesser time serve just as well, add important years of productivity to the individual's career, and reduce the cost to society by a significant amount? This is a crucial question for the education of gifted students.

Additional research would be needed to discover how frequently students are given special advancement by two or more grades in public schools (and its converse, how many are held over). The age distribution of students by grades is not a common statistical analysis. The *Statistical Profile, North Carolina Public Schools* (1988) gives the number of students not promoted in 1986-87, which was about 4.8% of ADM, but no count was given of students who were promoted two or more grades. A study of Grade 4 in 1981 (Inman, 1982) indicated that only 3/10 of 1% of the students were more than 3 months younger than the lower limit of the expected age. (The law is that a student cannot enter kindergarten without reaching age 5 by October 16 of the school year.) A check of the ages of students taking the competency test given to over 82,000 Grade 10 students in February, 1988, indicates that only 8 of the students were a year younger than the earliest age expected with the usual annual progression to Grade 10, based on the general rule for Grade 1 entry. These calculations are problematic, however, because they assume that all students start school as soon as they qualify under the general rule.

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[*] Retention in grade is a very complex issue. The view that curricular material is entirely different from one grade to the next and that the mastery of the curricular material in one grade is necessary to the mastery of the curricular material in the next is too simplistic a view of reality. For the skills continuum, much curricular overlap exists between grades; the level of exposition differs from class to class within a grade; remedial training may be offered at grade level; and the curriculum may call for the introduction of new material that is wholly unrelated to what has gone before. All of these factors favor age promotion. Retention in grade incurs an additional cost to the school system and to parents who must sustain the child's dependency for an additional year, and it may cause further feelings of unworthiness in the student. If we accept these not-inconsiderable disadvantages, the advantages lie in the better mastery of the specific material taught at the grade level of retention. This material usually has some importance for the following year, but the advantages disappear within three years. The disadvantages remain.

In Figure 1, the frequency of birthdates is given for Grade 10 students taking the 1988 competency test. The frequencies plotted between the two solid squares represent the normal range of birthdates to be expected in a grade level. Those to the left represent either the frequencies of students who have been held over one or more grades or who elected to enter school up to ten months after turning seven years of age. Those frequencies to the right, beyond the right-most solid block, represent students who are younger than would be expected by the general rule. Three months younger, however, is about the maximum, and that represents only a small "fudge" factor on the general rule.

In summary, the evidence from age in grade data suggests that the principal, who has the authority to grade and classify pupils (Public School Laws of North Carolina, 1988), frequently uses that authority to hold students in grade, but seldom uses it to advance them a grade. The evidence offered here is only circumstantial, however, and the actual rates can be determined only through additional research.

Some credentialing practices act as a *curricular disincentive* to early graduation. Students are required to complete 20 course units in Grades 9-12, which is satisfied by an average of five courses per year over a four-year period (North Carolina Administrative Code: Department of Public Instruction, 1986). Two units, for example, are required in mathematics. One of these units could be Algebra I, but only if it is taken in Grade 9 or later. The students who take Algebra I in Grade 8 (and who make the highest scores of any students taking the course) are not allowed a unit credit for graduation because the course was taken before Grade 9. This severely limits the speed with which the student can qualify for graduation while providing a disincentive for taking advanced courses, most of which in any event are not easily accessible to students in Grade 8 and below.

Some students have found a way out of this dilemma. Advanced students short of high school graduation have found that some universities will admit them on the basis of entrance examinations, and some students have passed up high school graduation and gone on to college after their junior year in high school. The numbers are unknown. Other alternatives for the advanced student are dual or joint enrollment, where the student would be counted in attendance both at the high school and the post secondary school and would receive credit for the same courses at both places. Administrative limits exist for the proportion of students who could be engaged in such enrollment.

Another alternative is the Advanced Placement course, which essentially is a college-level course taught in high school and for which college credit at some colleges may be received upon the passing

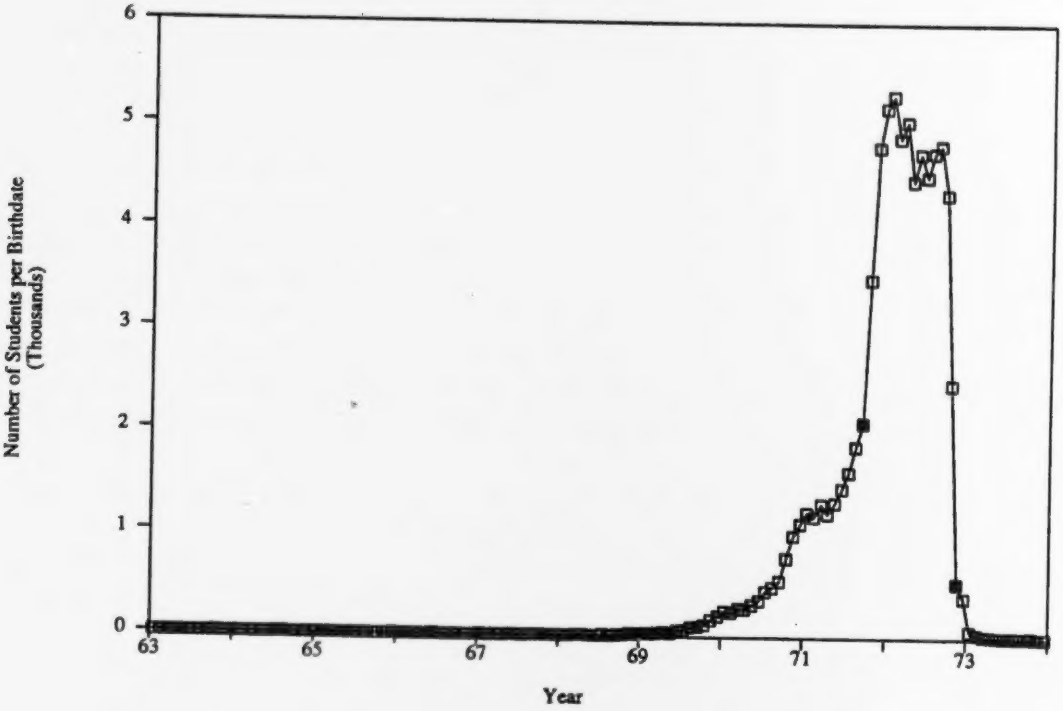

Figure 1. Frequency of birthdate among Grade 10 students taking the 1988 North Carolina Competency Test (n = 80,629).

of a special test and the payment of a fee—currently $57—by the student. This cost would appear to be a bargain for the student, but many of these students can expect to have college tuition scholarships when they go to college. A further drawback lies in the fact that some colleges will not accept Advanced Placement credits for some subjects and some test grades. To be sure of getting credit for a course, the students must know what school or schools they may want to attend and find out in advance what course credits the schools will accept and what course grade must be earned for credit. The students must then hope that the rules hold until they are ready to enroll in the college.

For the student, dual enrollment has one marked advantage over Advanced Placement. A typical one-semester college course generates 3 credit hours toward college graduation; but an AP test usually covers a year's high school work. Thus the student can generate college credits twice as fast in dual enrollment as in AP courses.

In 1987, 216 North Carolina high schools had Advanced Placement Programs (*1987 Advanced Placement Program Report*, The College Board). In total, North Carolina has 289 Secondary Schools, Grades 9-12, and 218 that are combined with lower grades (*North Carolina Education Directory*, 1988-89). The number of students taking exams in North Carolina totaled 6,375 in 1989; they took 8,774 exams, the greatest number in English Literature and Composition, followed by Calculus and American History. Over 100 tests each were taken in Biology, Chemistry, Computer Science, English Language and Composition, European History, French Language, a second course in Calculus, Physics, and Spanish Language. The applicants included 4,263 high school seniors, 1,912 juniors, and 108 Freshmen and Sophomores. More students took Advanced Placement courses than took Advanced Placement tests, however. Many students take AP courses just to get what they believe to be a better course of study. The number of Advanced Placement grades forwarded to North Carolina universities appeared to be in general proportion to the size of the universities' student enrollment.

Final Comments

This review of the literature has covered three aspects of educational programs for gifted students: a summary of research on acceleration and enrichment as guides to program design, with special attention to the teaching of strategic knowledge (thinking skills); a brief outline of sources that describe the widely divergent types of programs offered across the United States and abroad; and a listing of information sources for the North Carolina special education program for gifted students, with a brief summary of program settings, which was followed by a subsection on early graduation as a seldom-encountered outcome of an acceleration program.

From this review, it is apparent that no national consensus has been reached on program content or method of delivery of services for gifted students. The research reported here will attempt to describe the extent to which those national conditions are reflected in North Carolina public education.

NOTE

For the convenience of the reader who may be more interested in the conclusions of the study than in the detailed data summaries, the *Conclusions* section is presented next, following a short *Method* section. These three chapters, the *Introduction*, *Method*, and *Conclusions*, will constitute a *brief form* of the study. Readers who are interested in more detail are referred to the longer version, which includes Chapters 4 through 8.

Chapter 2—Method

General. The method of the study was shaped by the desire to conduct a brief study, between three and six months in duration, and the state of knowledge about the program structure of special programs for gifted students, which is known only in the most general way. The unit of study was defined as the individual student, not the individual program, in an attempt to understand the types and extent of programs normally encountered by the population of gifted students and how they are reacting to them.

This study should be thought of as an exploratory study, designed as much to determine with what variables a full-scale study should be concerned as trying to provide final answers to the problems encountered in the education of the gifted. Even so, it is expected that readers will be able to form some preliminary judgments concerning some aspects of the programs and to get a clearer idea of what further information is needed.

The study is retrospective in intent. Students and the people who participate in their gifted education programs, including their parents, were asked to examine the programs as they now are and have been in the past for the purpose of finding some sense of direction regarding what aspects of the programs have been and are being well-received and the opposite. It would be highly desirable to have achievement data that would reflect the success of the programs, but the lack of program descriptions, the lack of comparability of the programs, and an inability to define the student participants with respect to entry capabilities make such objectives highly impractical at this time and in the near future.

Sample

In consideration of the time frame and the current extent of knowledge, a modest initial sample of 216 students was planned. This sample size is too small to support generalizations about individual school programs for gifted children in North Carolina, but, if properly selected, may give some information about differences between large, medium, and small school systems.

In selecting students for study, it was highly desirable to avoid any systematic bias. In a massive, well-funded study, this could be handled by selecting a large random sample of students for study. In this study, we combined randomization with stratification in order to achieve our ends. In this process, we looked to the larger picture to avoid unmanageable bias and realize a representative sample of students.

The first concern was that the selection of cases be balanced geographically and by population size. This can be done in many ways, but one geographical division that bundles in and balances other factors has already been made: Educational Regions, of which there are eight. Although the population divisions are not identical, they provide one means of spreading the sample across the state. We set one requirement, then, that the sample of cases be balanced by Educational Regions.

A second consideration of importance was the size of the LEA student population. This becomes important because large student populations generate large numbers of gifted students. With large numbers of students, it becomes economically feasible to develop complex programs to serve their needs. Therefore, we might reasonably expect more elaborate programs for gifted students in large LEA's. Consequently, it was desirable to stratify the sample by size of LEA student population.

To satisfy the need for population stratification, LEA's were ranked by average daily membership and separated into three groups representing large, medium, and small school systems. It was found convenient to separate the LEA's into school systems larger than 23,000 students, less than 23,000 but more than 11,900 students, and those below 11,900 students. This creates three groups with statewide total student populations in the proportions of 1:1:2. Six LEA's were in the large group, and all six were selected for the study; 17 LEA's were in the second group, and six were randomly selected for study; and of the remaining 116 LEA's, 12 were randomly selected for study. The need for a larger number of small LEA's will be discussed below.

The logic of identifying approximately 200 gifted students for the study includes the need to generalize at least to a degree to large, medium, or small school systems. To have the same degree of generalization at each level, it would be helpful to have the same number of students in each group. Since the small LEA's have about half of the students in the state, we would need to weight their results by two in order to create the proper balance across the state in relation to large and medium size LEA's. That presents no problem. Therefore, the decision was made to select the same number of students from each of the three population groups.

Another variable was taken into account. If we select only Grade 12 students, the effects of the early years may be lost to memory. We decided to sample Grade 8 and Grade 3 students also, by this means assuring that recent program effects in earlier grades would also be accessible. Since the study is retrospective, with Grade 12 students theoretically reporting on 12 grades and Grade 3 students reporting on 3 grades, no simple logic offers itself as to the number of students to include at each grade level. In the absence of other pressing considerations, it was decided to select equal numbers of students at each of the three grade levels. With this same logic, equal numbers of schools were projected to be included in the sample.

Two things mitigated against the equal number of schools decision. First, it was desirable to limit the number of places it would be necessary to conduct personal interviews, which is the method of obtaining information from Grade 3 students. To satisfy that need, it was decided to select a larger number of Grade 3 students from the same school. That policy seemed sounder for large and medium LEA's than small LEA's, since many of the elementary schools in the small LEA's were very small themselves and might not have many gifted students in Grade 3.

This situation regarding the number of schools to be selected must be considered jointly with another variable, namely, the number of students to select from each school. To fulfill a prime consideration of limiting the amount of work any one school must do in order to assist with the study, we needed to limit the number of students per school to two. In the case of the elementary schools, we extended that to four, with the understanding that the number of courses being considered would be substantially less at that level. With these restrictions, and with the restriction concerning small LEA's mentioned earlier, we decided to select randomly two high schools, two middle/junior high schools, and one elementary school in each large or medium LEA. Most of the small LEA's do not have two high schools, and many do not have two middle schools. Therefore, we selected twice as many small LEA's and sampled only one high school, one middle school, and one elementary school from each LEA. In the elementary school, only two students would be sampled, even though this would increase the interviewing burden somewhat.

Variables

Of primary concern were the concepts of program acceleration and enrichment and the variables that would help define their educational use and relative degrees of acceptance. These occur in a context of status (age, grade, etc.), educational environment (courses taken, type of gifted program, etc.), background conditions (prior experience with the gifted program, part-time employment, etc.) and future plans and desires (plans for college, preference for professions, etc.).

These variables were incorporated in questionnaires for each of the three grade levels—Grades 3, 8, and 12. The questionnaires for Grades 8 and 12 were administered as a pencil and paper document, but the questionnaire for Grade 3 required personal administration. The three questionnaires were made as parallel as possible, in order to permit direct comparisons to be made across grade levels.

To support the information obtained from students, questionnaires were designed for the teachers of the gifted students in the sample, the counselors in the sampled schools, and the parents of the students. The logic of the questionnaires followed the logic of the student questionnaires, while taking advantage of the broader knowledge the other people might have about the gifted program. We also collected copies of the students' Group Education Programs and their grade transcripts, following the possibility that the information from those two sources might clarify the type of programs or the status of the students. The content of the questionnaires will be evident from the presentation of the results of the surveys.

Procedure

Questionnaires for students, teachers, and counselors were distributed through school principals, who assisted in data management at the school level. Other questionnaires were distributed by mail. Grade 3 students were interviewed by Regional School/Community Relations Coordinators.

Returns are given in Table 2.1.

Because of its sample size, this study must be regarded as a pilot study, designed to identify what factors are likely to be of importance in a larger study, and to obtain some initial estimates of what the answers to questions are likely to be in a larger study. Because of the failure of some selected schools to have special education programs for gifted students at Grades 3 or 12, the obtained sample is even smaller than the initial projection. Even so, because of its random selection of participants, the results are likely to be indicative of the results from a larger study.

Table 2.1
Academically Gifted Survey Returns

			Sampling Quota Deficit Due To:				
		Sampling Quota	No Gifted Program	Too Few AG Students	No Response	Number Received	% of all Possible Responses
Students:	Total	216	56	11	7	142	95
	3	72	30	9	0	33	100
	8	70	0	2	1	67	99
	12	74	26	0	6	42	88
Parents:	Total	216	56	11	47*	83	64
	3	72	30	9	10	21	68
	8	70	0	2	24	34	59
	12	74	26	0	19	22	54
	unknown					6	
Counselors:	Total	96	24		2	70	97
	3	24	11		0	13	100
	8	35	0		0	35	100
	12	37	13		2	22	92
Teachers:	Total	96	24		1	71	99
	3	24	11		0	13	100
	8	35	0		0	35	100
	12	37	13		1	23	96
Principals		96	24		22	50	69
Superintendents		24	0		7	17	71
GEP		96	24		11	61	85
Transcripts		216	56		24	125	84

*The Parent Questionnaire was sent out after home addresses were received from the schools. Addresses were not received for 19 parents (Grade 3, n = 2; Grade 8, n = 10; and Grade 12, n = 7) and, therefore, these parent surveys were not considered as no responses.

(The distinction that was made initially among large, medium, and small school systems subsequently was found rarely to lead to statistically significant results, and the data were combined without weighting of any kind.)

Chapter 3—Conclusions

Chapters 4 through 8 are devoted to a detailed summary of the results of surveys of academically gifted (AG) students, their parents, teachers, and counselors, and principals and superintendents. In this chapter, an effort is made to characterize the results, reach some tentative conclusions, and present some alternative courses of action. The purpose of the report is not to formulate policy, but to offer information that may be of use to administrators and others in making policy.

The current AG education program

The current AG education program—in the narrow sense of a categorically-funded program—is part of the program for exceptional children and follows that program model. A student identification process is carried out; each identified student receives a special plan for instruction, prepared by a school-based committee; a report is made regarding whether the plan's objectives have been met by the student.

Not every school elects to have an AG program. In those schools that do, the programs may differ by student, class, grade level, school, and school district. This is a consequence of the bottom-up planning model employed in the education of exceptional children.

In 1987-88, the state's categorical aid to AG students was $587 per student per year. By comparison, the mean annual total per student expenditure from all sources was $3,392. Up to $50 per student per year could be spent on materials. The most common use of AG funds was for the hiring of AG-certified teachers. These teachers, in addition to their teaching responsibilities, usually have the main administrative responsibility for the preparation of the AG student's plan for instruction. Most AG teachers teach at more than one school.

Difficulties with program definition. At the beginning of this study, we attempted to make a distinction between the part of the AG program that was funded from regular education funds and the part that was funded by categorical AG funds, choosing to call the latter the AG program. This distinction has been hard to maintain. Most of an AG student's instruction is funded by regular funds. In high school, many regular courses are designed to accommodate high-ability students. When students replied to our questions about AG education, they usually viewed regularly-funded advanced courses as being part of AG education. Extracurricular activities may also have entered into their judgments concerning AG education. This must be kept in mind as we note responses to "AG education." More is usually meant than just those activities funded by categorical funds.

General results

Most of the participants in AG education were favorably disposed toward the program, taken in the broad sense of that which was being funded with both regular and categorical funds. The overall feeling was that something was needed and the existing effort helped. A large majority also thought that the program needed to be expanded to cover more courses and more time. In addition, some schools had no AG program for certain grades, particularly Grades K-3 or high school. The lack of an AG program in those grades was usually attributed to insufficient funding, although occasionally to other reasons.

Exceptions to the high rate of approval were found in the responses of principals of schools that had no categorically-funded AG program, but relied on the regular education program to supply all student needs. Many of these principals felt that the existing program took adequate care of gifted students. No state-wide inventory was conducted of such schools, but they amounted to between 40% and 50% of the elementary and high school samples.

Almost all middle schools in the sample had AG programs, which indicates some general trend toward a concentration of AG monies in the middle grades, at least in this sample. The money, after being allocated to school districts on the basis of identified AG students, does not necessarily follow the students; the funds become part of the school district's special education funds and may be spent on AG education at any level, or even on other special education programs.

An investigation into the relative effectiveness of enrichment and acceleration as AG program strategies could not be concluded because no well-articulated program types could be found for examination. Some suggestive facts were uncovered, however, and are discussed below.

Program characteristics

In characterizing an educational program that differs as widely in its structure as the AG program, some loss of fine detail is inevitable. Two of the large school systems in the sample had instances of GT (gifted and talented) Magnet Schools, which gives a different look to AG education, particularly at the elementary level, where AG students may elect to attend schools in numbers large enough to support an extensive development of AG courses. By the same token, AG students who do not elect to attend GT schools may find themselves in a regular education program, sometimes to their great dissatisfaction. On the whole, however, the comments here are indicative of what the greater number of students, parents, teachers, and administrators were experiencing in the program at the time of the survey.

The findings of the surveys will be grouped under six headings:

Curriculum:	Responses that related to curriculum content
Students:	Responses that related to how students were selected or grouped
Time:	Responses that related to how much time students were to spend studying
Environment:	Responses that related to facilities, equipment, and non-curricular materials
Management:	Responses that related to how curriculum, students, time, and the environment were managed to achieve goals and objectives
Outcomes:	Responses that indicated what outcomes were expected

Curriculum—Structure and Content

What can be said about curriculum in an education program that differs student by student? Any kind of comprehensive summary would require months, perhaps years, of work, and would likely be outdated by the time it was completed. Those on the scene, particularly superintendents and to some extent students, tended to question the need for so drastic a differentiation of courses. The bottom-up planning model, they reason, may be essential in its original environment, that of handicapped students, one of whom may be blind, another deaf, another with a learning disability, and another with an emotional problem; but AG students are selected because they are alike: they have greater academic ability than other students.

More curriculum planning. Superintendents expressed a need for more curriculum planning to serve the needs of AG students in a more structured way. One called for "an articulated curriculum K-12 and an appropriate service delivery model," another "the integration of school-wide enrichment into the regular education curriculum," and another a "statewide curriculum for the gifted built upon the skills and objectives listed in the various curricula areas of the BEP."

More academics. Students added to this desire for a conventional approach to programming by calling for more academics—Reading, Mathematics, Foreign Languages, Science, etc.—in the elementary grades, where the profusion of non- standard courses seems greatest. Their interest was in being better prepared for high school and college, and they felt that subject matter courses were the way to obtain that preparation.

More science and mathematics. Participants also felt that the science, mathematics, and foreign language sections of the curriculum were in greatest need of expansion (students, pp. 4-46,48,49; parents, pp. 5-14, 16; counselors, pp. 7-7,8,10). It may be noted that a large majority of AG teachers have a humanities background (Reading/Language Arts/English/Social Studies). Very few of the AG teachers in the sample were also certified in Mathematics or Science. (AG certification is added to an existing certification.) It is not clear why this occurs, but it makes it inevitable that most of the categorically funded AG courses will be humanities oriented. If we expect to be technologically prepared for the future, preparation must start with curriculum definition and teacher certification that more adequately represents Science and Mathematics.*

Students—Selection, Placement, and Grouping

The AG identification process drew a large number of comments on two counts: One group felt that the current ID process was technologically unsound; the other felt that the exceptional children model, in which the identification process is an essential feature, was not an appropriate model for AG education.

Low ID reliability. In the first instance, the instruments used to establish eligibility are not smoothly articulated: IQ test results vary as a result of their contents and methods of administration; achievement test norms vary in state performance levels across grade levels and subjects; only the extreme ends of the scoring scales are used, and these tend to be unstable because of low item representation. Students fall in and out of the AG program based on these rather unstable measures, which is upsetting to everyone. An effort is being made to reduce the amount of retesting in order to eliminate "ungifting." The basic problem remains, however, if a wide variety of instruments continue to be used to establish eligibility. Much of this problem could be solved by using state norms for achievement test scores and limiting the use of IQ tests to one or two standard forms (such as the WISC and the Stanford Binet).

Low minority representation. A further part of this problem is the low representation of minority groups among AG students. Many administrators want some procedure that will identify more minority students as academically gifted. Contrary to popular belief, IQ and achievement tests tend to over-predict the future success of minority students. What do teachers do if students are selected on non-performance criteria and are unable to keep up the pace? The potential for disappointment builds to the point where the student finds that he or she cannot "pass the SAT," although the student has been a gifted student for years. One such instance was uncovered in this survey. The inclusion in the program of students who are not high achievers will not only defeat the purpose of the program, but will ultimately lead to student frustration. No easy solution to the desire for minority representation presents itself.

Distribution and scheduling of AG students. Another sort of problem arises from the uneven geographical distribution of AG students. We assume that various levels of intelligence are randomly distributed—that is, a plurality of people are of average intelligence, with decreasing numbers on each side toward the bright and dull sides of the scale. But intelligence is not randomly distributed demographically. When an objective measure is applied, some neighborhoods, some schools, some counties, will have a greater or lesser number of students with high IQ's than others. Furthermore, some schools and school systems are simply larger than others and will therefore tend to have more AG students in the aggregate. This situation creates administrative problems in funding, staffing, and scheduling at some schools. In any case, the irregular distribution of AG-identified students at a grade level is seldom the exact number needed to form a class. Administrators may need to add students to form a class, but categorical funding would direct them to exclude non-AG students from AG classes.

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*Opposed to the belief that students need more technical study is the Chicago school of thought made prominent by Robert Maynard Hutchins in the 1930's. This school promotes the idea that education is concerned too much with technology and that a good education is one which can be based on a study of the "great books." (Hutchins eliminated formal courses and grades at the University of Chicago for a time.) It is not clear just what modern people can learn from the ancients. Our problems are different. The ancient Greeks, for example, dealt with the problem of population growth by exposing unwanted children on the mountainside, entrusting them to the care of the elements and wolves. In the freedom of Athens, the decision to do this was made by the parents; in totalitarian Sparta, newborn children were brought before the Ephors, who decided if they were fit to live. The surviving censuses of some post-empire Mediterranean towns show the populations to have been more than three-quarters male. From this we can learn only that the ancient Greeks, whose word for foreigner was "barbarian," were barbarians too.

Administrators do not take the problem of scheduling lightly. What does a principal do with two fourth-grade students, the only ones who qualify or apply for an AG program? The money and the students do not match. Some administrators would like to give up the qualifying system to make it easier to group students. Many administrators and teachers believe that the qualifying distinctions are too finely ground, that most students in the upper ten per cent would be able to do the same work. They may be right, but one cannot be certain unless one knows just what sort of work the students should be doing (see *Curriculum* above). Some type of compromise needs to be authorized, because an affordable technology has not yet been devised to handle individualized instruction on a large scale. The answer may be in acceleration, carefully articulated across all grade levels with a specific purpose in mind.

Program management and paperwork. Finally, the identification, planning, and evaluation processes require time and extensive documentation (to satisfy "due process"). Administrators offer three solutions to this problem: eliminate the process, provide more clerical help, or reduce the AG teacher's teaching load to make time for planning. Some sort of identification process may be necessary, however, to keep even a minimum measure of integrity in the program.

The individualized planning and evaluation processes may be more open to alternative program solutions. Any cutting-back strategy, however, should take into account that most AG students do not feel that they have anyone at the school who has a continuing responsibility for advising them about their educational program (Table 4-24). This suggests the need for more counselors and a possible area of staff development for classroom teachers, who must of necessity assume some of the burden of advising beyond the subjects they are teaching.

Grouping. In schools, many compromises are being made to deal with the problem of teaching the AG student's differentiated curriculum. Within-class grouping, pull-out sessions, separate classes, and even separate schools (GT Magnets) are employed. Although the exact frequency is not known, it appears to be common practice to fill out AG classes (usually a class taught by a categorically-funded AG teacher) with non-identified high-achieving students. In middle and high school, the AG-funded teacher probably serves to increase the number of advanced courses available. That can be particularly important in schools that do not have even Advanced Placement courses. The benefits spill over to students who are not categorized as academically gifted but can handle advanced work.

Time

A critical procedural issue is the amount of time to be spent on a subject. Curriculum design deals with scope and sequence, at which point it is decided what subjects should be taught, how much information should be covered in a course, and how long it should take. The curriculum and its scope and sequence have grown up slowly, without any element of necessity. Such is the surfeit of information that any course can be expanded to take up any length of time without much duplication of the next course planned for that subject. How much is enough? The scope and sequence of existing curricula are mostly traditional, with small changes introduced on a time scale of decades.

The basic idea behind *enrichment* is the enlargement of the scope of the curriculum. This practice finds favor with administrators, because the scope and sequence of the basic curriculum stays in place for the average student. The AG student works through the basic curriculum in a class and studies additional material from day to day or at the end of the course. What is lacking in this plan is evidence that the enrichment material advances the student in any substantive way toward his goal of an advanced professional degree.

Since there is always a "more advanced" course just ahead, why not spend the extra time mastering the next advanced course? That is the idea behind *acceleration*—to speed up or shorten the sequence. Acceleration as a means of reducing the time required to complete elementary and secondary education is discouraged by institutional barriers and by custom, although it has been reported to be successful in cases where the participants have been chosen carefully and adequate guidance and encouragement have been offered (the SMPY program, for example).

Comments by teachers indicate that AG students frequently study material that is advanced by at least a grade level. But students almost never skip a grade. The dilemma can be characterized by the comments of one teacher, who stated that AG students finished the regular curriculum at the end of Grade 11 and spent Grade 12 in honing skills and making in-depth studies. It is not clear why those students should not go right on to college and shave a year off of the many years of further study ahead of them. Before becoming fully-functional professionals, many students will spend up to 26 years in becoming educated (13 years to high school graduation, 4 years to a bachelor's, 7 years to a Ph.D., and 2 years postgraduate work with a qualified professional). It is difficult to imagine what would take 26 years to learn.

If acceleration is to be used as an instructional strategy, it should be planned across the entire K-12 continuum of courses, and institutional barriers should be removed or neutralized. The students that would embark on this plan would need both advice and encouragement until the path was better marked. Only one student in our sample had ever skipped a grade, so precedent does not exist in our study.

Environment—facilities, materials, equipment, supplies

The study participants made remarkably few comments about classroom facilities, materials, equipment, and supplies. One teacher commented on the AG class's being held in a trailer, several mentioned equipment and supplies, but the overall impression was that environmental problems were no worse for AG than for the regular program—that is, where problems existed, they were not problems unique to AG education.

Computers. One exception can be noted, however. Many elementary and middle school teachers and students felt that more computers were needed and that more time should be spent mastering the technology. Certainly the computer is now ubiquitous, and students should become computer-wise as soon as possible. The frequency of comments indicates that this need among elementary and middle schools should be examined more closely.

Management—staff, schedules, resource utilization, etc.

One judgment on the difficulty of managing the AG program is the fact that some schools do not have a program. Their principals feel that the program as it now stands would not contribute to a better education for their high ability students.

The AG program is administratively untidy—it requires special effort to identify students, plan for their courses, supply special teachers for them, and keep track of their progress. Special reports must be made; teachers must have special qualifications; arrangements must be made for field trips, mentors, Saturday classes, speakers, clubs, honor societies, etc. Since AG teachers take care of many of these functions, superintendents, counselors, parents, and students would like to see more AG teachers added to the teaching staff. Administrators and teachers would also like to see more clerical help and smaller class sizes to aid in management of the program. More counseling services are also seen as necessary.

These extra efforts, where they are successful, are appreciated by AG students and their parents. They like the opportunity for students to work at their own levels, which they express in a number of ways. They see the program as challenging, not boring, an opportunity to move at the student's own pace, not having to wait for others to catch up, etc.

When the efforts at management are not successful, some logjams occur. Students have conflicts between their AG work and the regular work. Sometimes they get a double dose of the same thing; sometimes they miss classwork that they must make up as homework; sometimes they must feel their regular teacher's resentment based on the implication that his or her teaching is not good enough; in one instance, the regular teacher would not let the student go to a high-level-thinking pullout class because she felt the regular classwork was more important. Students express their reaction to the administrative complexity by asking for more advice in managing their academic progress over the years.

Most of all, students feel that many of the programs are inadequate, with which most will agree. Comments of Grade 3 teachers reveal that a lot of the effort at that level is perfunctory, inspirational at best. The representation of advanced classes in middle and high school is too spotty. These holes in the AG curriculum can be pasted over in various ways, but only money and substantive reorganization can eliminate them.

The overall picture is one of doing the best possible with inadequate resources, with some notable successes, some failures, and considerable stress all around.

Outcomes

In the exceptional children model, the AG student's group education program (GEP) contains the student's educational objectives for the year. Evaluation is in terms of the percentage of objectives reached, based usually on the AG teacher's judgment. The objectives are worded in general terms, and few objective measures, such as achievement tests, are introduced.

Comments on program outcomes were conspicuous by their absence. Specific outcome expectations of any type were infrequent, with those made being in very general terms. Students mentioned preparation for the future, recognition, or "just fun." Parental expectations included higher motivation, learning to use talents for others, and learning to live up to potential. (No suggestion was made regarding what that potential might be or any procedure for determining when it had been reached.) In program philosophy, teachers offered a wide spectrum of general goals, but no outcome measures.

Almost never was there any mention of early graduation, increases in test scores, addition of specific content subjects to the AG curriculum, or completion of some specific number of Advanced Placement courses as an expected outcome of AG education. Occasionally a comment was made that students were expected to complete the regular curriculum in 11 rather than 12 years or that AG students were encouraged to take one or two AP courses in specific years (AP History in Grade 12, for example). In at least one instance, students were being required to take the AP test when they took an AP course, which indicates some demand for evaluation. AP courses are not part of the categorically-funded AG program, of course, but they are frequently taken by AG students.

It may be considered here that two views of educational evaluation, completely opposed in nature, are present in the educational environment. One regards an educational program as a public affair, its objectives to be clearly stated and its outcomes reliably and validly measured. Such an evaluation lends itself to aggregation across students, so that class-level and grade-level summaries can be made and compared with previous performances. The other view regards an educational program as being unique to each student, with its objectives stated in general terms for each student and evaluation done qualitatively by the teacher. Such evaluation does not lend itself to public scrutiny. When asked how someone may assess the outcomes of the overall program, the reply goes something as follows:

> "You bring them a student folder and let them examine it."
>
> "And if they are not satisfied?"
>
> "You bring them another student folder."
>
> "And then?"
>
> "You just keep bringing them student folders until they are satisfied."

Since the folders may contain vaguely stated objectives with "yes" or "no" measures of success, or test worksheets with no known reliability or validity, very little convincing summative evaluation information is likely to be encountered in the folders. Accountability is not an important consideration in this second view. At present, AG evaluation does not rise much above this second type.

In education, outcome expectations follow from curriculum statements. If superintendents are successful in obtaining a core curriculum for AG students, complete with scope and sequence, then measurable outcomes can be specified.

Six models of AG education. This concludes the summary of program characteristics and some of the issues surrounding them. To further the discussion of what form AG education should take in the future, six alternatives have been described below. The advantages and disadvantages of each model are discussed and are followed by some possible courses of action.

Configuration 1. The exceptional children model

This model starts with the premise that gifted students differ from each other in their needs and each student must have an individualized educational program plan. The school's gifted education program then becomes a collection of the individual educational programs of the identified academically gifted students in that school (bottom-up planning versus top-down planning). Each student's program is evaluated in terms of the objectives especially designed for that student.

ADVANTAGES—Special attention is given to the particular abilities and desires of a student. The educational program is tailored to be just right for the student. This individualization of instruction is in principle the ideal means for meeting the educational needs of all students.

DISADVANTAGES—The administration of the program requires a lot of paperwork: the identification process; the writing of a GEP or IEP (group education program or individualized education program), reports on progress, parental approvals, special class assignments, finding and organizing special resources. Some of the special classes inevitably turn out to be types that have been criticized in the literature as "vulnerable and shaky" or "fun and games." It becomes very difficult to put a finger on just what educational progress is being made toward what substantial goal.

While any child's educational needs will differ to some extent from another, the special ability of gifted children tends to be a very general intellectual superiority. The need for individualization within the category may be overstated. Generally advanced courses at a higher level of complexity may suit the needs of a large majority of gifted students.

This special education model is used with handicapped children, and the purpose there is to design a program that will be as much like the regular educational program as possible—in fact, "mainstreaming," if feasible, is the ideal prescription. Just the opposite is the case here. The program for AG students is expected to differ from the mainstream. Just how is left up to the school-based committee, which has to draw on a non-existent technology for help.

Configuration 2—The basic enrichment model

This model requires all teachers to become certified as AG teachers. The regular curriculum is expanded to contain enrichment strands suitable for AG instruction in all courses. AG students are grouped heterogeneously in Grades K-8 and are taught in regular classrooms in much the same manner as they are now being taught, except that they would be expected to learn the AG enrichment portion of the curriculum in addition to the basic material. This suggests some compacting of the regular curriculum to create time for the enrichment strands. Let the now-existing course differentiation in high school take care of that level of instruction (honors courses, AP courses, extracurricular activities).

ADVANTAGES—This configuration is the classic enrichment model. The scope of the curriculum would be expanded, but the sequence would stay the same. First-graders would study first-grade material, sixth-graders would study sixth-grade material, and the difference for gifted students would be that there would be more first-grade and more sixth-grade material for them. This would solve most of the administrative problems surrounding special treatment for AG students by removing most of the special treatment. No formal AG identification would be required; any capable student could participate in the enriched portion of the curriculum. Other than certification and curriculum revision costs, no special expenses would be associated with the program. No conflict would exist between the regular and the AG curriculum, which is now reflected in some conflict between regular and AG teachers, since the regular and the AG teacher would be the same person. No special scheduling problems would exist, since the AG and regular students would not be taught in separate classes. This type of solution has the additional advantage of being a general solution; i.e., it would also cover remedial education and everything between remedial and AG education.

DISADVANTAGES—This system places the entire program burden on the classroom teacher, who is expected to be everything to everyone. Serious questions have arisen in the past as to whether students who vary widely in their intellectual ability can be taught satisfactorily in a single classroom. Most research on the topic is worthless, because the purposes of grouping are ill-defined and the curricular scope and sequence are inadequately differentiated for the different groups. Based on their experiences in regular classrooms in Grades K-8, however, most gifted students feel they are held back in regular classes. Whether this can be overcome through AG certification of teachers remains to be seen. The danger is in trivializing AG education.

Full professional functioning for the student would still be 26 years away from kindergarten (see above).

Configuration 3. A modified enrichment model

This configuration is the same as Configuration 2, except the time saved through compacting the regular curriculum for gifted students would be used to personalize instruction on topics the students have identified as being of special interest to them.

ADVANTAGES—The modified enrichment model has the advantage of pushing the student along the lines of personal interest, keeping in mind that important contributions to society have frequently been made by gifted individuals who start off on "their thing" and push it to some new development.

DISADVANTAGES—Interests of students in elementary and secondary schools change frequently and are not reliable indicators of future directions. The servicing of these special interests may take teachers out of their area of expertise and call for additional management of outside resources. Special resource personnel may be required (see Renzulli, 1986—Chapters 9 and 10). Alternatively, special interests can be well served through extracurricular activities.

Configuration 4. A status-quo enrichment model

This model would start with the existing AG education model, which features pull-out classes in elementary school, some AG classes in middle school, and AG, AP, and honors classes in high school, and add additional pull-out and AG classes in some subjects at some grade levels (judiciously chosen to make up for demonstrated deficiencies). These AG classes would be at the same sequence level as the regular courses, but would be enriched in complexity and material for the benefit of the gifted students. This program could also call for the removal of the 3.9% cap, or raise it to perhaps 5.8%, which comes close to the number of identified AG students.

ADVANTAGES—An organization to handle the administration of this configuration already exists. Some of the stresses from the program could be lessened somewhat by the infusion of more money. This would be seen as progress and would encompass more students.

DISADVANTAGES—The hodgepodge curriculum would still exist; identification problems would still exist; and the feeling would still exist that the program is spread too thin to do much more than make a gesture toward a sounder education for AG students. The identification of 5.8% of all students as being "gifted" (a term having no biological referents) is a figure based on an arbitrary identification process that could be changed to identify a greater or smaller percentage of all students.

Configuration 5—An acceleration model

Academically gifted students are identified early in their academic careers and receive most of their instruction in special classes. They study a curriculum developed especially to prepare them for college, since all expect to attend. Their courses are taught at a high conceptual complexity in keeping with their abilities, but the students are not buried in a mass of details that will ultimately be forgotten. The primary goal is to move the students on into college-level work as soon as practical, since that is where their academic future lies. Students should be doing college-level work—for college credit—by their junior year of high school. Dual credit for high school and college would be arranged, or early high school graduation allowed. The courses could be taught either on the high school or college campus, whichever was more expedient for the student and the school.

ADVANTAGES—This would enable gifted students to move along at a rate that will engage their attention and prepare them better for college. The program will ultimately add at least two years to their professional lives and incidentally reduce the expenses of their education, either at the high school or the college level. Given the cost of tuition and personal maintenance, the monetary savings would be between $20,000 and $60,000 per student, much of which cost falls on the general taxpayer, the rest being an expense for parents or students.

DISADVANTAGES—The primary disadvantage of this configuration is that it recognizes the elite (the best or most skilled members of a social group) that naturally exists among students. This leads to charges of elitism (rule by the elite), which does not logically follow, but which has an emotional impact regardless. Problems with identification, scheduling, and staffing would still exist with this configuration, although some problems would be solved with the definition of a comprehensive program for gifted students. Identifying enough students to justify a class would be a problem in some schools. As with magnet programs, some special assignment of gifted students would be required to obtain workable class sizes. This would not be just for some classes, however, but for all classes—i.e., permanent assignment outside of the normal school attendance area.

Configuration 6—A status-quo acceleration model

This model would take the existing course structure as a given and allow gifted students to proceed through it at an accelerated rate by skipping grades and courses and enrolling in appropriate courses wherever they may be found. Gifted students would be encouraged to skip at least two grades before high school—say Grades 1 and 5—after demonstrating that they had mastered most of the material taught at those grade levels. This would put them in high school two years ahead of schedule, where they could participate in advanced courses and obtain at least one year of college credit through AP courses. [See the SMPY model (Benbow, 1986) as an example.] Some course compacting would be desirable, to make time for filling in any educational gaps made by grade skipping. Telescoping (completing two year's work in one year) would also work. Another way to accomplish the same thing would be to let AG students take high school courses for credit while they are still in the middle grades, thus shortening the time they would have to spend in high school and facilitating early graduation.

ADVANTAGES—This has the advantages of the first acceleration program in saving time for the student—at least two years. The courses available to the student would not stretch the student's abilities as much as the special curriculum envisioned above, but some teacher-initiated modifications are always present and could be expected to benefit the gifted student as much as other students. Besides, the college curriculum should be seen as the basic source of the student's academic foundations for his or her profession. This procedure also would not isolate the student from students with less ability, if that is considered an advantage. Savings: from $20,000 to $90,000 per student, and two to three years of the student's future professional life.

DISADVANTAGES—The apparent disadvantages are relatively few. Fears that social development will not keep up with academic development have not been supported by research. (It is assumed that students will not be advanced against their will.) Gifted students would leave their friends when advancing two grades at one time, but with busing, computer-directed class assignment, magnet school changes, reassignment for purposes of maintaining ethnic ratios, and a high degree of family mobility, that would not seem to be a prohibitive consideration. AG students frequently work above grade level, and grade skipping is already an option in some AG programs, but an option that is apparently seldom used.

Discussion

It is not the intent of this report to establish policy, but to describe existing conditions and provide alternative courses of action for consideration. What makes it difficult to choose among possible courses of action is the lack of a specific statement of purpose to guide gifted education. This follows from the lack of an adequate data base, which exists not because the data have not been gathered, but because the conditions that give rise to such data do not exist, either as naturally occurring phenomena or as experimental or trial conditions set up with that purpose in mind. Thus we have no answers to the following questions:

Does enrichment really contribute to students' ultimate success in their professions, or does it simply load them down with unnecessary trivia and slow their progress through the curriculum?

If enrichment contributes, what does it contribute, and is it worth the time and money compared to alternative uses of resources?

Can gifted students be properly served under any circumstances with a curriculum that is sequenced for the average student?

Should students be prevented from taking high school courses for credit before Grade 9, or should they be allowed to progress through the curriculum at a faster pace and begin the long journey through the universities at an earlier age?

Until we have satisfactory data to answer these questions, decision making in gifted education will continue to be problematic. The time is ripe for setting up the conditions needed to answer the questions. It is possible to create model programs representing the main alternatives and study the results over an extended period of time—five years, for example.

Should such a course of action become desirable, three basic models should be considered. First is the exceptional children model with its bottom-up planning on an individual student basis. The consequences of that model are fairly well known, this study providing an adequate listing of the advantages and disadvantages associated with it. More data on that model may not be needed.

A model enrichment program

More data are needed on the enrichment and acceleration models, but the conditions needed to explore those models may not be as difficult to set up as they would have been several years ago. A number of school systems are in the process of creating enrichment programs and are asking for help in curriculum definition regarding the enrichment strands. This model has so many administrative advantages that there should be no difficulty in identifying several model sites and assisting in achieving what would be the best form of the model. (See Configuration 2 above.) Two critical issues would have to be handled: curriculum development to assure that the enrichment strands represented the best forms of advanced instruction—e.g., the infusion of strategic knowledge into subject matter—and staff development to help teachers handle curriculum compacting, class-level ability grouping, and instruction for the new curriculum strands.

A model acceleration program

The model for acceleration along the lines of Configuration 4 would be more difficult to set up, because institutional barriers exist. The financial and curricular disincentives (pp. 1-13 to 1-16) would need to be removed or neutralized. The consequences of acceleration for gifted students would need to be discussed carefully with parents. Schools should pay for AP examinations. How difficult it would be to set up a model on the lines of Configuration 4 remains to be seen. It would involve little change in the curriculum, but would provide what might be a startling change in expectations for students. Under this model, students would need more access to counseling services in order to plan schedules and monitor progress. The alternatives represented by early graduation or extensive high school Advanced Placement study for college credit could be decided on the basis of opportunity, with a mixed schedule being a possibility—i.e., some courses on the high school campus, some on the college campus, the possibility of summer courses to fill some needs, with early graduation following the exhausting of AP course opportunities.

The question of the best education program for AG students is part of the larger question of the best program for all students. Public schools frequently choose to deal with the individual differences among students by declaring them to be environmental in origin and capable of elimination through the proper schooling. Important differences, however, are genetic in origin, become fixed at the time of conception, and can never be eradicated. (Only part of the genetic differences can be traced to parental similarities—many of the differences are a consequence of the random shuffling of chromosomes at the time of meiosis, a process that contributes unique genetic characteristics to the individual.)

Our society is distinctive in its mix of academic abilities, and our instructional problems differ from other modern societies. The age-graded school concept, a sturdy instrument of instruction in the past, does not adequately recognize individual differences, but administrators are rightly reluctant to give it up until they can see something that works demonstrably better. Our system of education is not likely to improve greatly until we can find a responsible way to deal with individual differences in student abilities. A first logical priority is to find a matrix of curricular opportunities that will allow students of differing abilities to move among the opportunities to serve their educational needs in the most efficient way. Assigning students to classes on the basis of chronological age is no longer an acceptable strategy.

Summary

The results of the survey can be summed up in a series of questions and answers.

Q. What do the participants think about the AG program?

A. Generally, they are enthusiastic about the program and some of the opportunities it offers to AG students. The program is difficult to administer, however, and needs changes in some of its procedures.

Q. Is additional funding needed?

A. Yes. The program does not serve all AG students, even under the 3.9% cap. Furthermore, the curriculum coverage is not complete.

(High-ability students are not evenly distributed geographically—as statewide test scores confirm. This creates a double bind in small school systems isolated from the state's educational and financial centers. They have a lower percentage of high-ability students, and they have fewer students from which to draw high ability students. Consequently, they have difficulty in getting enough students together to have an AG program, or enough money to do much with the students they have. Some sort of consolidation of AG students may be only way to achieve a working level of participation in these LEA's.)

Q. What changes are supported by the participants?

A. 1. Develop a systematic AG curriculum.

(The NCDPI is the logical source to lead and finance this effort, because the need is general and complex. More than one curriculum may be needed if more than one model of AG education is created.)

2. Add more mathematics and science to the AG curriculum in the elementary grades.

3. Simplify identification and placement of students.

(This can be done through a more judicious use of given resources, but may require more individual testing resources, either in terms of staff or outside testing.)

4. Install a more efficient form of program evaluation.

(If a standard curriculum can be defined, tests can be developed to cover the AG curriculum, perhaps as a special section to the Grades 3-8 skills continuum if its development is funded or as a special series of tests for AG-only courses. Current evaluation procedures could be discontinued without any loss of information.)

5. Include more minority students.

(Special care should be taken to make sure that the selected minority students would have a long-term chance of success. It would be highly unethical to raise hopes and have them dashed years later when the students leave the protected system that selected them.)

6. Allow greater flexibility in administering funds.

(This needs some special study. The main problem is making use of funds that are so irregularly associated with students—two students here, two students there, 25 students somewhere else. Usually, the problem revolves around an acceptable class size and what must be done to achieve that. Some if-then conditions need to be written into the procedures.)

7. Provide more sustained advice for AG students in the management of their schedules and associated problems.

(This may be not only a matter of providing more counselors, but also a matter of establishing some priorities concerning what counselors do. It seems inevitable that someone else must share some of this responsibility, and the only likely person is the teacher. Perhaps AG certification requirements should include a guideline on academic guidance.)

8. Provide more general access to computers in Grades K-8.

Q. What other aspects of the program need attention?

A. 1. The selection and hiring of AG teachers, who now appear to be predominantly humanities oriented. A greater balance is needed between the humanities and science, mathematics, and perhaps foreign languages.

2. The technological base for AG education, which is now largely non-existent. This problem does not need solution by an expert, because there is none. It can be solved only over a period of time, by testing well-specified alternatives. (A recommendation is made concerning model programs.)

3. Staff development, to qualify more teachers in AG education and acquaint regular teachers and others with the goals of AG education.

4. Administrative procedures, which tend to fall outside of accustomed responsibilities and conventional "turf." Some of these problems will disappear with the specification of a formal curriculum for AG education. Others will have to be solved by the reformulation of duties and responsibilities.

5. The lack of an effective AG program in Grades K-2. This needs to be given some special attention on the possibility that the need of the AG student for special help may be a declining function of time. As the students mature, they are more capable of understanding their needs and have more means of satisfying them (AP courses, honors courses, extra-curricular activities). The AG student is most vulnerable in the early years when the same needs exist as later, but the student does not understand them or have the means of satisfying them. Difficulties in identification at that age level should not be used as an excuse for ignoring this problem.

Q. What is the choice between enrichment and acceleration as program strategies?

A. Sufficient information does not now exist to make a responsible choice between the two strategies, or even to know whether they should be mixed in some manner. Recommendations are to create model programs along the two lines—say five LEA's in each—and finance the programs with AG funds. The models should be given at least five years to develop. In the meantime, the AG program should be expanded along present lines, with some of the administrative changes discussed above.

Q. What are the long-term responsibilities associated with AG education?

A. AG education is only a part of the special problem faced by U.S. public education, namely that of individual differences in performance levels among students. Age-graded promotion and teaching to the middle-ability student does a disservice to most students, but the means of improving this typical instructional strategy has not made itself evident as yet.

Public education, if it is to be a part of the solution to the technological problem created by a world market, must find a way to deliver maximum educational services to individuals, regardless of ability level. This involves the creation of a matrix of opportunities that will engage every student in a maximum effort. The exploration of enrichment and acceleration models of instruction is one step that can be taken now.

Chapter 4–Results of Student Survey

Programs and placement

Although the main intent of this study was to investigate the reaction of students and others to existing programs, we inadvertently came across information about the establishment of programs and the identification of eligible students. Two points in that area will be discussed below.

Schools without gifted programs. One of the significant findings of the study was the absence of a program for gifted education in many of the schools (Table 2.1). About one-third of the expected number of students was not found in schools because the schools had no special program for gifted students at that grade (Grade 3, 8, or 12). This does not mean that the needs of those students—and we may assume that eligible students could have been identified—were or were not being met within the regular educational program; it means only that the administrators of those schools did not regard the gifted program as having enough advantages to make it worthwhile to participate, or it was not the policy of the LEA to fund gifted programs at that grade level.

The greatest deficit in school programs for the gifted at Grades 3, 8, and 12 was in Grade 3—somewhat over 50% of the schools had no program. Almost all of the principals in those schools said that it was the policy of their school systems to begin gifted education at Grade 4 (Grade 5 in one case). Four principals felt that identification of giftedness was too unreliable before Grade 4, causing problems at a later date when gifted students were declassified. Two principals felt that the discontinuance of achievement testing in Grades 1 and 2 contributed to the problem of identification.

Gifted programs were most popular in Grade 8, with the quota of gifted students essentially filled for that grade. At Grade 12, another deficit was evident, with the quota falling short about 43%. Principals of those schools stated that the needs of gifted high school students in their schools were served adequately by Advanced Placement, honors, and elective courses, and clubs and extracurricular activities. One principal stated that the gifted funds were used to fund the honors and Advanced Placement courses, another that all gifted funds went to elementary students, and another that he was unaware of funding practices.

Further problems with identification. The problems of identification of gifted students were evident not only from comments by elementary principals, but from inspection of gifted classifications and grade transcripts. The expectation that the classification of "academically gifted" would be associated with high teacher-awarded grades was not always evident, although it was very common. It is generally understood, from comments of the students themselves as well as other sources, that some teachers grade gifted students much harder than other students, so that a "C" in a gifted course might well be an "A" in the regular classroom. In search for some more reliable measure of academic ability, we turned to those Grade 12 records that contained Scholastic Aptitude Test (SAT) scores.

For 25 cases of our Grade 12 sample, we have Scholastic Aptitude Test (SAT) Scores in Verbal Aptitude and Mathematical Aptitude. These scores were converted to standard (z) scores to place them on the same scale (mean = 0; SD = 1.00). Note that 3.9% of the student population can now be funded for participation in gifted programs. If that is the top 3.9% in ability and ability is normally distributed, then we can fix that point in the normal distribution and assign a score to it. Assuming that the scores are normally distributed, that about half of all students take the SAT, and that those students comprise the upper half of the scoring distribution, then the top 3.9% of the total distribution of scores would be about 7.8% of this distribution of scores, which produces a theoretical gifted cutoff score of 1.45 on the standard score scale. The North Carolina distribution of scores is somewhat lower than the total SAT distribution, and the North Carolina cutoff score of 7.8% is about 1.10 on the national scale of z scores.

In Table 4.1, we have documented the SAT scores for these 25 Grade 12 students and noted their North Carolina AG classifications and the classifications that would have been made on the basis of SAT scores, using a z score cutoff of 1.10. The agreement in verbal/numerical classifications between the two procedures is negligible—six cases among 25. Cases 1, 11, and 15 seem likely not to be academically gifted students, although in the context of all students they are probably competent students. Of the 12 classifications of either "Verbal Only" or "Math Only," only four could be justified on the basis of SAT scores as being properly limited to just "Verbal" or "Math". Even in those cases, some justification for questions arises with respect to reliability, as will be noted below.

The internal consistency reliability of the SAT is about .92 (*College Entrance Examination Board*, 1984). Alternate form reliability is not given, but can be estimated to be at least 5 points less (.87). Using that figure to calculate a standard error of measurement, the SEM is .36 in terms of z scores. For a .05 level of certainty, a score could vary by chance as much as (1.95 • .36) or .70 z score points in either direction. Of those cases classified as math only or verbal only, only cases 5 and 7 appear to differ significantly in terms of Verbal and Math SAT scores. Even those differences may not be due to innate capacities (gifts), but merely decisions made by the students at some past time just not to bother any more with mathematics (both are Verbal Only).

Even small sets of data demonstrate clearly that the differential classifications of AG students are problematical. The needs for greater reliability and validity, with their attendant concerns for efficiency, equity, and credibility, cannot be satisfied until a more standard classification procedure can be developed and adopted. The current procedure for classification appears to be educationally invalid for many students.

Table 4.1
Comparison of differential AG student classifications—
School-based Committee vs. Scholastic Aptitude Test (SAT)

Case No.	SAT Standard Score		AG Classification		
	Verbal	Math	School	SAT	Agree
1	–.80	–.55	Math	Neither	
2	.25	.37	Math	Neither	
3	1.39	1.78	Math	Both	
4	.84	1.45	Math	Math	*
5	1.76	.62	Verbal	Verbal	*
6	1.39	1.37	Verbal	Both	
7	1.30	–.38	Verbal	Verbal	*
8	1.67	1.45	Verbal	Both	
9	.57	.03	Verbal	Neither	
10	1.21	1.28	Verbal	Both	
11	.38	–.97	Verbal	Neither	
12	1.39	.95	Verbal	Verbal	*
13	1.58	–.80	Both	Verbal	
14	.66	.78	Both	Neither	
15	–1.17	–.80	Both	Neither	
16	.48	1.03	Both	Math	
17	.20	1.20	Both	Math	
18	.66	.78	Both	Neither	
19	.11	.78	Both	Neither	
20	1.67	.70	Both	Verbal	
21	1.94	1.28	Both	Both	*
22	.20	.78	Both	Neither	
23	.75	.03	Both	Neither	
24	.38	.03	Both	Neither	
25	1.67	1.70	Both	Both	*

Student attitudes and beliefs

The method of presentation of results of the student survey will be to follow the order of the questionnaire, adding relevant summaries of comments as they occur. In that manner, the reader will be able to understand directly how the questions were asked and what results were obtained. Where it was deemed practical, questions for Grade 3, 8, and 12 students were written to be strictly parallel. In some cases, it was judged that the wording of a question needed to be changed for Grade 3 students, or that some particular question was not appropriate for the elementary level. In those instances, only Grade 8 and 12 data are presented in parallel.

Except where noted, all results are expressed as percentages and the sample sizes were as follows: Grade 3, n = 33-34; Grade 8, n = 64-67; and Grade 12, n = 39-42.

The first question was designed to determine whether students had been in the AG program from the primary grades, or whether they entered at random intervals. The results are given in Table 4.2.

Table 4.2
Question 1, Student Questionnaire

Counting this year as one, you have been in the Academically Gifted (AG) Program for how many years since Grade 1? (Please fill in the blank.)

_____ years

	1	2	3	4	5	6	7	8	9	10	11	12
3	20.5	50.0	29.4									
8	4.5	10.4	19.4	13.4	20.9	11.9	11.9	7.5				
12			7.5	5.0	5.0	15.0	20.0	10.0	15.0	10.0	7.5	5.0

The significant result in Table 4.2 is that gifted students are not identified early in their educational careers and treated to a consistent program for their entire elementary and secondary education. Rather they may enter the program at any time in their academic careers. Since we have sampled only students who are now in the program at Grades 3, 8, and 12, we could expect to find another group of students in those grades who have been in the gifted program at some other grade but have been declassified or have left the program by choice. Although a sample of these students should be included in future surveys, it does not seem necessary to have that information in order to make the point that reliability of classification is a major drawback to efficient program management of gifted programs.

The attitudes of students toward the AG program were probed in Questions 2-4 (Tables 4.3, 4.4, and 4.5).

Table 4.3
Question 2, Student Questionnaire

	8	12	
Is the AG program an important part of your education this year? (Please check one.)	43.9	42.5	☐1 Very important
	30.3	22.5	☐2 Important
	12.1	22.5	☐3 Average importance
	7.6	7.5	☐4 Not very important
	6.1	5.0	☐5 Not important at all
Mean	2.02	2.10	
SD	1.20	1.19	

Twenty-one of the Grade 3 students commented on the importance of the AG program to them. Their responses were similar to AG students in Grade 8 and 12 in Table 4.3:

Words used by Grade 3 students to describe importance and their percentage of all such comments:

43%	Real important/very important/lot of importance
38%	Important
14%	Little/kind of/sometime/pretty important
5%	Not important

Seventeen of the 33 Grade 3 AG students used the word "fun" to describe the program. An additional 12 students did not use the word "fun," but said they "liked" or "enjoyed" the program. Two students were not aware of the AG classification or the AG program, but received consultive services (AG teacher suggests activities to the students' regular teachers). Comments were almost uniformly favorable, although one student remarked, "I don't think I belong because I miss a lot of math; it is my worst subject in here," and noted that 25 students were in the class.

In Table 4.4, students' attitudes are found to be about the same toward earlier years in the AG program, with Grade 12 students viewing the program as somewhat more important in earlier years than in Grade 12. Other students were found to have a moderately favorable view toward the AG program (Table 4.5).

Table 4.4
Question 3, Student Questionnaire

How important has the AG program been to your education in past years? (Please check one.)

	8	12	
	31.3	50.0	☐^{1} Very important
	43.8	30.0	☐^{2} Important
	15.6	15.0	☐^{3} Average importance
	9.4	5.0	☐^{4} Not very important
	0.0	0.0	☐^{5} Not important at all
Mean	2.03	1.75	
SD	0.93	0.90	

Table 4.5
Question 4, Student Questionnaire

Does being in the AG program mean very much to the students in your school? (Please check one.)

	8	12	
	9.1	10.0	☐^{1} Very important
	16.7	32.5	☐^{2} Important
	40.9	40.0	☐^{3} Average importance
	25.8	17.5	☐^{4} Not very important
	7.6	0.0	☐^{5} Not important at all
Mean	3.06	2.65	
SD	1.05	0.89	

Sixteen of the Grade 3 students remarked that their classmates liked the program (like, care, enjoy, sorta special).

These results indicate that the AG program is important to most AG students and has a positive image among students in general. The next question, however, gives some substance to what AG students mean by the AG program, which is not simply activities funded by AG funds (Table 4.6).

Table 4.6
Question 5, Student Questionnaire

Of what does your AG program consist this year?
(Please check as many as apply.)

3	8	12	
0.0	0.0	2.4	☐ Special AG classes that make up an entire school day
73.5	25.4	11.9	☐ Group sessions in which AG students are pulled out of a class for special instruction
20.6	28.4	26.2	☐ Classes for only AG students
5.9	62.7	88.1	☐ Classes for all high achievers, such as honors classes
55.9	34.3	11.9	☐ Enrichment opportunities, where you are given special or additional work in class or for homework
14.7	6.0	9.5	☐ Independent study outside of regular classes, in the community, or study led by a specialist living in the community
5.9	1.5	0.0	☐ Saturday classes
2.9	0.0	0.0	☐ Summer classes
0.0	6.0	7.1	☐ Study at local colleges or by college correspondence courses
8.8	4.5	0.0	☐ Study in a special AG learning center
5.9	16.4	7.1	☐ Special counseling by a counselor or AG teacher to help you manage your program
29.4	22.4	16.7	☐ Other programs or activities

If any activity checked above involves missing class time, how is the time made up?

In Table 4.6, the frequency with which other programs and activities were mentioned can be broken down as follows: Grade 8: (4) field trips, (2) competitions, and (1) Saturday classes; Grade 12: (6) none of the above activities, (1) AG "mostly hype", (1) just AP, (1) post-secondary course at night, (1) AP art, (1) counseling program, and (1) center for AG classes.

The following activities were mentioned by Grade 3 AG students:

- made red, white and blue balloons, put hot air in them
- did reports and activities
- trip to study county government
- wrote and discussed in groups
- three activities this semester; clay, newspaper, binders, glue, art worked into Geographical Exploration; African Jewelry
- dimensions (measurement); beginning writing
- worked on insects, then graphs, geometric figures ... drew insides of an ant on ant outline

For Grade 3 AG students, the most common program element was group sessions in which AG students were pulled out of a class for special instruction, followed in frequency by special or additional work in class or for homework. One student out of five mentioned classes for only AG students. Special counseling was rarely mentioned.

For Grade 8 AG students, pullout classes were less common and enrichment opportunities were fewer, but participation in classes for high achievers became an important element in the program. One out of four students mentioned classes for only AG students.

For Grade 12 AG students, honors-type classes became the dominant feature of their programs. One out of four mentioned classes for only AG students.

We can see a distinct difference in the means of instructing the elementary and the secondary gifted student, with pullout classes dominating the elementary instruction and honors classes dominating the secondary level, with some transition in middle school.

Students were also asked:
If any activity checked (in Question 5) involves missing class time, how is the time made up?

Frequency of mention was as follows.

Grade 3	(5) work is made up out of class as homework, (5) no time missed, (4) made up after returning to classroom, and (2) time not made up
Grade 8	(5) work is made up out of class as homework, (2) no time is missed, and (1) make-up policy defeats wide-scale membership
Grade 12	(11) work is made up out of class as homework, (6) time not made up, and (2) get notes from other students

Question 6 provided insight into students' extracurricular activities (Table 4.7).

Table 4.7
Question 6, Student Questionnaire

In what other school activities do you participate besides the regular and AG educational programs? Please check as many as apply, and write the type of activity in the space following:

3	8	12	Check
0.0	32.8	59.5	☐ Honors societies
11.8	47.8	23.8	☐ Music
73.5	53.7	50.0	☐ Sports
0.0	14.9	19.0	☐ Writing/publishing
0.0	10.4	38.1	☐ Student government
5.9	4.5	16.7	☐ Theatre/dance/debating
8.8	13.4	7.1	☐ Cheerleading/drill team
2.9	13.4	14.3	☐ Art activities
32.4	34.3	83.3	☐ Clubs—Science, Math, Computer, Foreign Language
	13.4	28.6	☐ Governor's School (Which year?__________)
0.0	20.9	21.4	☐ Career-oriented clubs (FFA, FTA, ROTC)
50.0	4.5	40.5	☐ Other regular activities

Other regular activities from Table 4.7 were listed as follows.

Grade 3 (5) read, (3) pets, (2) games, (2) homework, (2) church camps/Bible school, (2) hiking, (2) trips with family, (1) review day, (1) nap, (1) playing outside, (1) collect rocks, (1) models, (1) telescope, (1) baby sit, (1) beach, (1) Disneyland, (1) Mom reads to me, (1) Kid's Club (church), (1) choir, (1) watch baseball on TV, (1) go to church, (1) ride bike, (1) tutor cousin, and (1) go to store

Grade 8	(2) Monogram Club, (2) SADD, (2) Open Lunch Committee, (1) industrial arts—vocational class, (1) Peer Tutoring Program, (1) Academic Competition, (1) Club Day, (1) Chess Club, (1) Pride Club, (1) Pep Club, (1) gymnastics team, (1) Builder's Club, and (1) vocational education
Grade 12	(5) Part time job, (4) church associated activities, (3) Jr. Civitans, (1) tutor, (1) Baby Huey Club, (1) Anchor Club, (1) Urban League, (1) special classes, (1) Minority Achievement Club, (1) GGS (school service club), (1) Summer Ventures, and (1) Boy Scouts

The failure of third graders to mention watching TV is probably worth further investigation. Only one student admitted watching TV as a regular activity, although other students mentioned many activities that were clearly not school activities. Perhaps it is a case of, "What are you doing?" "Nothing ... just watching TV."

The evolution of activities from sports and individual activities in Grade 3 to clubs and honor societies in Grade 12 is evident from the above data. The middle years are the years of band participation.

A detailed breakdown of the activities listed in Table 4.7 under the major headings are given below.

Honor Society

Grade 8	(7) National Junior Honor Society, (5) Beta Club, (2) Algebra I, (1) Cougar's Den
Grade 12	(11) National Honor Society, (8) Beta Club, (1) 12th Grade Honor Society, (1) Junior Marshall, (1) Scholastic Letter, (1) National Art Society, (1) High Q, (1) French Honor Society, (1) Mu Alpha Theta, and (1) Service Club.

Music

Grade 3	(3) piano, (1) violin, and (1) Listen, sing and dance along
Grade 8	(15) band, (8) chorus, (2) trumpet, (2) drums, (1) unified art class, (1) violin, (1) vocational class, (1) rock band, (1) guitar, (1) vocals, and (1) orchestra
Grade 12	(4) chorus, (4) band, (3) piano, and (1) vocals.

Sports

Grade 3	(5) baseball, (5) soccer, (5) swim, (4) basketball, (4) bicycle, (3) softball, (3) roller skating, (2) volleyball, (2) tennis, (2) t-ball, (2) ice skating, (2) hockey, (1) football, (1) dodge ball, (1) water-slide, (1) trampoline, (1) three wheeler, (1) Boy Scouts, (1) running, (1) gymnastics, (1) rolling ball, (1) fishing, (1) hiking, and (1) stick ball
Grade 8	(13) basketball, (8) softball, (6) volleyball, (5) football, (5) soccer, (3) wrestling, (2) track, (2) tennis, (1) skateboarding, and (1) cheerleading
Grade 12	(6) basketball, (5) tennis, (4) football, (4) track, (2) baseball, (2) soccer, (2) cross country running, (2) golf, and (1) cheerleading

Writing/publishing

Grade 8	(7) memory book, yearbook, annual, (5) newspaper, (1) library, (1) magazine, (1) and journalism class
Grade 12	(3) newspaper, (3) yearbook, and (1) magazine

Student government

Grade 8	(3) student council, (2) class representative, (1) SGA
Grade 12	(10) student council, (4) class representative, and (1) Boy's State

Theatre/Dance/Debating

Grade 3	(2) jazz dancing
Grade 8	(1) Theatre Club, (1) forensics/public speaking, and (1) stage crew
Grade 12	(3) theatre club/acting/drama, (1) forensics/public speaking, (1) and ballet

Cheerleading/drill team

Grade 3	(3) cheerleading
Grade 8	(6) cheerleading
Grade 12	(3) cheerleading

Art activities

Grade 3	(1) drawing
Grade 8	(3) art class, (1) vocational class, (1) competition, and (1) any special art activities
Grade 12	(2) National Art Honor Society, (2) Art Club, and (1) drawing

Clubs

Grade 3	(3) Girl Scouts, (2) Brownies, (2) Cub Scouts, (1) Good News Gang (church), (1) PRIMS (church), and (1) RA's (church)
Grade 8	(5) Science, (5) Mathcounts/math, (3) Beta Club, (2) History, (2) Algebra Club, (1) French, (1) Baseball Card Club, (1) Knowledge Master Open, (1) Photography, (1) American's Pride Club (anti-drugs), (1) Boy Scouts, and (1) Computer
Grade 12	(8) French Club, (6) Spanish Club, (6) Latin Club, (5) Computer Club, (5) Math Club, (5) Pep Club, (4) Foreign Language Club, (4) SADD, (4) Science Club, (3) Sci-Math Club, (3) FCA, (2) Quiz Bowl, (2) International Club, (1) Monogram, (1) International Relations, (1) A-team, (1) German Club, (1) Jr. Civitan, (1) Interact, (1) Alchemy Club, (1) Girl's Service Club, (1) Literary Club, (1) Drama Club, (1) Girl's Club, (1) FBLA, (1) Mu Alpha Theta, (1) Bible Club, (1) Keywanette, (1) Library Club, (1) Civitan Service Club, and (1) Junior Classic League

Career-oriented clubs

Grade 8	(6) Career Exploration Clubs of NC, (1) Vocational class, and (1) Guitar Club
Grade 12	(5) FTA, (2) FBLA, (1) DECA, and (1) HOSA

It is evident from the above that clubs, honor societies, and other extracurricular socio-intellectual associations play an active part in the education and socialization of students in the upper grades. Many, if not most, of the clubs are school-sponsored. Just what educational outcomes occur is not a matter of record. The next step in understanding the part that extracurricular activities play in school life is to obtain a baseline of participation by all students, which will contribute to an understanding of whether gifted students are unusual in their participation, either in rate or type of participation.

Question 7 asked students to calculate time spent at an after-school job as well as whether or not they felt such activity interfered with school work (Table 4.8).

Table 4.8
Question 7, Student Questionnaire

If you work after school at a part-time job, not school related, please indicate the number of hours you work each week. (If you do not have a part-time job, please put a zero in the blank space.)

I work about ______ hours per week at a part-time job.

	0	1-5	6-10	11-15	16-20	21-25	> 26	Mean	SD
8	89.6	3.0	4.5	1.5	1.5			1.00	3.35
12	33.3	14.3	11.9	7.1	9.5	19.1	4.8	10.50	10.84

(If you have a part-time job) Do you feel that your work interferes seriously with your studies?

8	12	
0.0	17.9	[1] ☐ Yes
100.0	82.1	[2] ☐ No
n=7	n=28	

Question 8 asked students to determine how much time they spend outside of class doing homework (Table 4.9).

Table 4.9
Question 8, Student Questionnaire

About how many hours each week do you spend outside of class doing the homework assigned by all of your teachers? (Please fill in the blank.)

About _____ hours per week.

	0	1-5	6-10	11-15	16-20	21-25	> 26	Mean	SD
3	9.1	81.8	9.1					3.54	1.91
8	1.5	34.4	49.2	12.0	1.5	0.0	3.0	7.67	5.11
12	4.8	21.5	42.8	14.2	14.2	0.0	2.4	9.57	5.94

Students were then asked to comment on the amount of homework assigned (Table 4.10).

Table 4.10
Question 9, Student Questionnaire

How do you regard the total amount of homework assigned to you in all of your classes? (Please check one.)

	8	12	
	7.5	7.1	☐^{1} Too much
	26.9	23.8	☐^{2} A little too much
	61.2	61.9	☐^{3} About right
	3.0	4.8	☐^{4} Not quite enough
	1.5	2.4	☐^{5} Too little
Mean	2.64	2.71	
SD	0.73	0.77	

Table 4.9 shows a small number of students that report they spend over 26 hours per week on homework. Several regard the amount of assigned homework as "too much" in Table 4.10. This raises the question of whether some students find themselves involved with a group of teachers who all make extensive homework assignments, thus creating an impossible study environment for the students, or whether the students receive normal assignments but push themselves beyond the boundary of reason and good judgment in trying to fulfill them.

Question 10 asked students to rate the importance of excelling in their school work (Table 4.11).

Table 4.11
Question 10, Student Questionnaire

	8	12	
Is it important to you to excel in your school work? (Please check one.)	76.1	64.3	☐1 Very important
	19.4	26.2	☐2 Important
	4.5	9.5	☐3 Average importance
	0.0	0.0	☐4 Not very important
	0.0	0.0	☐5 Not important at all
Mean	1.28	1.45	
SD	0.55	0.67	

Relative importance

		low		medium			high		
	0	1	2	3	4	5	6	7	Mean/SD
3	0.0	0.0	0.0	0.0	2.9	8.8	8.8	79.4	6.65 / 0.77

All of the students felt that excelling was important, with the large majority feeling that excelling was very important. The students believe their parents shared theses beliefs to an equal degree (Table 4.12).

Table 4.12
Question 11, Student Questionnaire

	8	12	
Is it important to your family that you excel in school? (Please check one.)	79.1	69.0	☐ 1 Very important
	17.9	31.0	☐ 2 Important
	3.0	0.0	☐ 3 Average importance
	0.0	0.0	☐ 4 Not very important
	0.0	0.0	☐ 5 Not important at all
Mean	1.24	1.31	
SD	0.50	0.47	

Relative importance

	0	1	2	3	4	5	6	7	Mean/SD
		low		medium			high		
3	0.0	0.0	0.0	0.0	0.0	8.8	14.7	76.5	6.68 0.64

Question 12 asked students how much emphasis their teachers place on superior performance in school (Table 4.13).

Table 4.13
Question 12, Student Questionnaire

	8	12	
Is it important to your teachers that you excel in school? (Please check one.)	53.7	35.7	☐1 Very important
	32.8	40.5	☐2 Important
	10.4	16.7	☐3 Average importance
	1.5	7.1	☐4 Not very important
	1.5	0.0	☐5 Not important at all
Mean	1.64	1.95	
SD	0.85	0.91	

3	2.9	2.9	0.0	0.0	2.9	0.0	29.4	61.8	6.24 / 1.60

While students believed that it is very important to excel in school and believed that their parents felt the same way, their belief that teachers shared these values tended to falter from Grade 3 to Grade 12 (Table 4.13).

In question 13, students were asked to rate their regular school work to determine how much of it they found challenging (Table 4.14).

Table 4.14
Question 13, Student Questionnaire

	8	12	
Do you find your regular schoolwork challenging this year? (Please check one.)	0.0	14.3	☐1 Yes, all of it
	32.3	33.3	☐2 Yes, most of it
	35.4	33.3	☐3 About half of it
	23.1	19.0	☐4 A little of it
	9.2	0.0	☐5 None of it
Mean	3.09	2.57	
SD	0.96	0.97	

Students were then asked, in question 14, to rate their AG classwork to determine how much of it they found challenging (Table 4.15).

Table 4.15
Question 14, Student Questionnaire

	8	12	
Do you find your AG schoolwork challenging this year? (Please check one.)	20.3	32.4	☐1 Always
	37.5	48.6	☐2 Most of the time
	12.5	8.1	☐3 About half of the time
	15.6	8.1	☐4 Not usually
	14.1	2.7	☐5 Never
Mean	2.66	2.00	
SD	1.35	1.00	
		n=37	

Both Grade 8 and Grade 12 students found their AG schoolwork to be more challenging than their regular schoolwork. It should be noted from data previously presented that the Grade 12 AG program is mostly honors classes for all high achievers (i.e., not classes exclusively designed for AG students).

Question 15 asked students if they think they work too hard for the educational benefits they receive (Table 4.16).

Table 4.16
Question 15, Student Questionnaire

	8	12	
Do you ever feel that you work too hard for the benefits you receive from your education? (Please check one.)	1.5	4.8	☐ 1 Very often
	14.9	19.0	☐ 2 Often
	14.9	7.1	☐ 3 About half of the time
	47.8	54.8	☐ 4 Occasionally
	20.9	14.3	☐ 5 Never
Mean	3.72	3.55	
SD	1.01	1.11	

Grade 3 (only)

Do you ever get tired of school for more than one day or two at a time?

Yes	56.7
No	42.4

About one-third of the students in Grades 8 and 12 felt that they must work too hard for the benefits they receive. One aspect of this is the grading system for advanced courses. Students complained that the grading system is much harder for advanced courses and that they could very easily obtain an "A" in a regular course for the same amount of work that gets them a "B" or "C" in an advanced course. Sometimes weighted credit is given by the school in calculating grade point averages, sometimes it is not. University admissions practices are not uniform in their treatment of this situation. Sometimes grades are simply taken at face value when they are fitted into a formula.

Some good students are beginning to avoid advanced classes because of the inequitable grading system. A greater reliance by universities on state-administered high school subject area test scores could reduce this inequity in college admissions practices.

Students were asked in question 16 whether or not they intend to go to college (Table 4.17).

Table 4.17
Question 16, Student Questionnaire

	8	12	
Do you plan to go to college? (Please check one.)	98.5	97.6	☐^{1} Yes
	1.5	2.4	☐^{2} Not sure
	0.0	0.0	☐^{3} No
Mean	1.01	1.02	
SD	0.12	0.15	

Table 4.18 indicates what students plan to do after completing all of their education.

Table 4.18
Question 17, Student Questionnaire

What do you plan to do after you finish all of your schooling, including any college or other post-high school study? (Please try to be as specific as possible.)

(Students may make multiple responses)

Grade 3	(11) teacher, (4) lawyer, (3) veterinarian; physician; baseball player; astronaut, (2) computer designer; armed forces; basketball player; archeologist, (1) dentist; hair dresser (part time); geologist; cowboy; fighter pilot; electrician, rock star; actor; chemist; writer; drawing; police officer; race car driver; child psychologist; start a club to fight major diseases; just like to have a job
Grade 8	(10) business, (7) physician; lawyer, (5) engineer; veterinarian; teacher; sports, (3) life scientist; physical scientist, (2) accountant; computer specialist; nurse, social scientist, (1) interior decorator; music; secretary; airplane pilot, photographer, Armed Forces; CIA; dentist; social worker; inventor; real estate; child care, and (13) undecided
Grade 12	(7) business, (6) engineer, (4) lawyer; physician, Armed Forces; teacher; computer specialist, (2) architect; veterinarian; social scientist; writer, (1) accountant; life scientist; dentist; child care; sports; music; astronaut; airline stewardess, (4) undecided

Questions 18-30 asked students to consider the special benefits associated with the AG program and to rate these benefits according to importance (Table 4.19).

Table 4.19
Questions 18-30, Student Questionnaire

An AG program offers some special opportunities for AG students. Please use the list below to tell us how important these things are to you. Space has been allowed at the bottom of the list to add any others that you wish. Please circle a number in each row to correspond to your judgment of importance, "0" being of no importance, "7" being of the greatest importance.

Please circle one number in each row.

		Relative importance								
			low		medium			high		
		0	1	2	3	4	5	6	7	Mean/SD
18. A chance to talk things over and try out your ideas on other gifted students.	3	2.9	5.9	2.9	8.8	26.5	11.8	23.5	17.6	4.67 1.87
	8	3.0	7.5	6.0	16.4	13.4	28.4	14.9	10.4	4.27 1.83
	12	2.5	2.5	0.0	7.5	22.5	7.5	25.0	32.5	5.30 1.76
19. A chance to find out more about a subject that interests you.	3	0.0	2.9	5.9	2.9	2.9	17.6	14.7	52.9	5.82 1.68
	8	0.0	0.0	1.5	6.0	10.4	25.4	28.4	28.4	5.58 1.26
	12	0.0	0.0	2.5	5.0	10.0	15.0	25.0	42.5	5.83 1.36
20. A chance to study new topics not related to your regular classes.	3	0.0	0.0	2.9	0.0	17.6	20.6	23.5	35.3	5.68 1.30
	8	0.0	4.6	4.6	4.6	16.9	23.1	13.8	32.3	5.20 1.72
	12	0.0	0.0	7.5	5.0	25.0	20.0	22.5	20.0	5.05 1.48
21. A chance to move promptly from one topic to another.	8	1.5	1.5	10.4	14.9	17.9	17.9	19.4	16.4	4.60 1.75
	12	0.0	2.5	7.5	7.5	32.5	25.0	17.5	7.5	4.53 1.41

Table 4.19 cont.
Questions 18-30, Student Questionnaire

			Relative importance								
				low		medium			high		
			0	1	2	3	4	5	6	7	Mean/SD
22.	A challenge to think things through on your own, without help or direction.	3	0.0	2.9	5.9	8.8	2.9	23.5	23.5	32.4	5.38 / 1.69
		8	1.5	4.5	3.0	9.0	16.4	25.4	17.9	22.4	4.94 / 1.73
		12	0.0	0.0	2.6	5.3	5.3	36.8	21.1	28.9	5.55 / 1.27
		Grade 12: n=38									
23.	A chance to get some recognition and respect for your talents from teachers and other students.	3	0.0	0.0	0.0	2.9	5.9	23.5	32.4	35.3	5.91 / 1.06
		8	0.0	3.0	1.5	6.0	7.5	11.9	34.3	35.8	5.70 / 1.50
		12	0.0	0.0	5.0	10.0	7.5	15.0	15.0	47.5	5.68 / 1.61
24.	A chance to work without repeating material already learned.	3	2.9	2.9	8.8	5.9	11.8	20.6	14.7	32.4	5.03 / 1.98
		8	0.0	3.0	0.0	6.0	11.9	20.9	20.9	37.3	5.60 / 1.49
		12	0.0	0.0	0.0	10.3	10.3	20.5	28.2	30.8	5.59 / 1.31
25.	Doing work and getting credit that will lead to a scholarship or a financial grant.	8	0.0	1.5	0.0	0.0	13.4	11.9	17.9	55.2	6.09 / 1.26
		12	0.0	0.0	2.6	5.3	5.3	18.4	13.2	55.3	6.00 / 1.38
		Grade 12: n=38									
26.	A chance to do advanced work that will lead to better grades in college.	8	0.0	0.0	0.0	0.0	13.4	14.9	20.9	50.7	6.09 / 1.10
		12	0.0	0.0	0.0	2.6	5.1	20.5	15.4	56.4	6.18 / 1.10

Table 4.19 cont.
Questions 18-30, Student Questionnaire

						Relative importance					
				low		medium			high		
			0	1	2	3	4	5	6	7	Mean/SD
27.	A chance to improve your credentials as reflected on your transcript, thus improving your chance of getting the college of your choice or the job you want.	8	0.0	0.0	0.0	0.0	6.0	14.9	23.9	55.2	6.28 0.93
		12	0.0	0.0	0.0	0.0	5.0	20.0	15.0	60.0	6.30 0.97

28.	A chance to make contacts outside of school, as in a summer program (Governor's School, for example) or at museums and similar places.	3	13.3	6.7	0.0	3.3	10.0	10.0	20.0	36.7	4.83 2.55
		8	6.0	4.5	7.5	13.4	19.4	22.4	17.9	9.0	4.19 1.88
		12	2.6	0.0	2.6	10.3	17.9	20.5	7.7	38.5	5.26 1.76

Grade 3: n=30

29.	A chance to meet and listen to important scholars or business or political leaders.	3	11.1	7.4	0.0	3.7	7.4	18.5	18.5	33.3	4.85 2.43
		8	4.5	3.0	9.0	14.9	25.4	19.4	16.4	7.5	4.15 1.74
		12	0.0	5.1	7.7	7.7	10.3	38.5	20.5	10.3	4.72 1.59

Grade 3: n=27

30.	A chance to study in a class where everyone is highly motivated.	3	0.0	2.9	8.8	8.8	0.0	8.8	11.8	58.8	5.74 1.91
		8	1.5	1.5	1.5	9.0	16.4	16.4	25.4	28.4	5.30 1.61
		12	0.0	0.0	2.6	7.7	7.7	17.9	30.8	33.3	5.67 1.36

Other important benefits of the program were listed as:

Frequency of mention in Grade 8: (4) doing more difficult work, not being hampered by slower learners, (3) mutual student interests and values; opportunity for self-expression; fun activities, (1) hands-on activity; develop character and motivation; and get constructive criticism.

Frequency of mention in Grade 12: (5) mutual student interests and values, (3) doing more difficult work, (1) hands-on activity; smaller classes; field trips; challenges; build leadership; "attending Governor's School (East '88) was the greatest benefit of my life," and (3) no program.

The reactions of students to questions 18-30 in Table 4.19 tended to be "medium importance" to "high importance." Some differing values are apparent, however. Some of these differences are:

> A chance to meet and listen to important scholars or business or political leaders, which has a medium degree of acceptance. The possibility that this rating could be improved by a better selection of speakers should be considered.
>
> Discussion with peers and making out-of-school contacts, which becomes more important as students get closer to graduation.
>
> Doing work and getting credit that will lead to a scholarship or a financial grant. This was the single most important concept mentioned. AG students in grade 8 were just as conscious of that possibility as AG students in Grade 12.

Questions 31 and 32 provided insight into the AG student's experience with regular classes. The number of regular teachers a student has is reflected in Table 4.20, and the number of teachers who know the student participates in the AG program is indicated in Table 4.21.

Table 4.20
Question 31, Student Questionnaire

How many regular teachers do you have this year? I have _____ teachers.

	0	1	2	3	4	5	6	7	8	Mean/SD
8	2.4	0.0	4.8	9.5	21.4	35.7	21.4	4.8	0.0	5.13 1.48
12	0.0	0.0	6.0	7.5	16.4	32.8	13.4	22.4	1.5	4.64 1.39

Table 4.21
Question 32, Student Questionnaire

To the best of your knowledge, how many of your regular teachers know you are in the AG program?

____ of my teachers know(s).

	0	1	2	3	4	5	6	7	8	Mean/SD
8	7.5	9.0	17.9	11.9	14.9	17.9	11.9	7.5	1.5	3.66 2.09
12	7.3	2.4	19.5	24.4	9.8	29.3	7.3			3.44 1.66

AG students have an undeniably demanding academic schedule. The next three questions deal with the interaction between counselors and gifted students. Question 33 (Table 4.22) asked students about the number of meetings with school counselors.

Table 4.22
Question 33, Student Questionnaire

33. Do you have an advisor who meets with you more than once per year to help you manage your schedule and make the most of your gifted educational program?

3	8	12	
12.1	34.3	50.0	☐ Yes
87.9	65.7	50.0	☐ No

(If yes) What is the advisor's title (AG teacher, School Counselor, etc.)?

3	8	12	
50.0	33.3	9.1	AG Teacher
50.0	41.7	81.8	School Counselor
	4.2		Home Counselor
	8.3		Teacher & Counselor
	8.3	4.5	AG Coordinator
	4.2	4.5	Other
n=4	n=24	n=22	

(If yes) How many times have you met with your advisor this year? ____ times

		0	1-5	6-10	>11
n=4	3	50.0	50.0		
n=23	8	8.7	78.3	13.0	
n=22	12	13.6	72.7	4.5	4.5

Question 34 (Table 4.23) asked students how often they meet with counselors concerning matters not related to the AG program.

Table 4.23
Question 34, Student Questionnaire

Not counting the times you have met with your AG advisor (if you have one), how many times this year have you met with the School Counselor to get advice not directly related to the AG program?

____ times this year

		0	1-5	6-10	11-15	16-20	21-25	> 26	Mean	SD
n=30	3	86.7	10.0	0.0	3.3				0.63	2.34
	8	61.2	35.8	3.0					0.91	1.69
	12	24.4	46.4	19.5	2.4	4.9	0.0	2.4	5.17	6.25

The results from the preceding analyses bring up the question of whether AG students get enough direction in their academic endeavors. In the elementary grades, the counseling is as likely to come from an AG teacher as a counselor. This trend changes over the three periods of time, with most of the counseling coming from school counselors by Grade 12.

Question 35 (Table 4.24) asked students if regular teachers met with counselors to discuss special needs of the AG student.

Table 4.24
Question 35, Student Questionnaire

Do your regular teachers plan with your advisor to offer you the special opportunities you need as a gifted student (special work, materials, discussions, etc.)? (Please check one.)

8	12	
60.3	75.7	☐1 I have no advisor and receive no special work.
25.4	10.8	☐2 I have no advisor, but my regular teachers frequently give me and other AG students special work and other opportunities not offered to non-AG students.
14.3	13.5	☐3 My advisor meets with my regular teachers frequently to arrange for special work and other opportunities not offered to non-AG students.
n=63	n=37	

The use of special equipment by AG students was surveyed in question 36 (Table 4.25).

Table 4.25
Question 36, Student Questionnaire

How frequently do you have opportunities to use special equipment not used by students in the regular program?

8	12	
43.3	48.7	☐1 No special equipment available
32.8	46.2	☐2 No special equipment needed
23.9	5.1	☐3 I use special equipment _____ times per week.

		0	1	2	3	4	5
n=16	8	6.3	62.5	6.3	12.5	0.0	12.5
n=3	12	66.7					33.3

Type of equipment ___________________________

Type of equipment:

Multiple responses from Grade 8: (8) computers, (3) books, (2) video cameras, (1) games; and scientific instruments.

Multiple responses from Grade 12: (1) lab equipment; Apple II computer; the dance room, off limits to non-dancers.

Table 4.26 reflects whether there is any work space set aside for AG students only.

Table 4.26
Question 37, Student Questionnaire

Is there special space—a room or area—set aside in your school for use only by AG students?

8	12	
38.8	9.5	☐ Yes
61.2	90.5	☐ No

The frequency of use of special rooms in Grade 8 is due to their use in "pullout" classes.

In question 38, students were asked to calculate how many hours per week they spend with an AG teacher (Table 4.27).

Table 4.27
Question 38, Student Questionnaire

How many hours each week do you spend in classes with an AG teacher who is especially assigned to teach AG students in your school? (Enter "0" if you do not have AG classes; count one class period as an hour.)

____ hours per week

	0	1-5	6-10	11-15	16-20	21-25	Mean	SD
8	29.9	43.3	16.4	3.0	7.5		4.94	5.78
12	34.1	46.2	4.9	7.3	4.9	2.4	5.34	6.24

Roughly three-fourths of the AG students had an AG teacher for one class per day or less. About one-third of the AG students had no classes under an AG teacher, according to their reports. The remaining one-fourth had additional instruction of varying duration.

Question 39 (Table 4.28) asked students whether or not they ever skipped grades.

Table 4.28
Question 39, Student Questionnaire

At the end of a school year, have you ever been promoted two grades at one time (allowed to skip a grade)? Please circle the grade(s) you skipped or check if no grades skipped.

8	12	
100.0	97.6	☐0 No grades skipped
0.0	2.4	☐ Skipped grades

Only one student skipped a grade—Grade 2.

Students were next asked if they considered grade skipping helpful to their education (Table 4.29).

Table 4.29
Question 40, Student Questionnaire

How helpful to your education was your skipping the grades you circled in Question 39? (Please check one.)	☐1 Very helpful ☐2 Helpful ☐3 Somewhat helpful ☐4 A little helpful ☐5 Not helpful at all

The one student in grade 12 answered "helpful" to Question 40.

Question 41 asked students if they studied grade-level or above-grade-level material when they were in elementary and/or middle school (Table 4.30).

Table 4.30
Question 41, Student Questionnaire

When you were in elementary/elementary and middle school, did you generally study grade level materials, or was a special arrangement made to have you study textbooks and other materials that were one or two grade levels above the grade you were in? (Please check one.)

8	12	
55.4	31.7	☐1 I studied grade-level material.
44.6	68.3	☐2 I studied materials that were above grade level in these grades and subjects (to the best of my memory):

Grade	Subjects
________	____________________
________	____________________
________	____________________

Grades and number of instances in which above-grade-level materials were studied:

Grade 8 AG students: Grades 1 (5), 2 (10), 3 (14), 4 (12), 5 (10), 6 (7), 7 (5), 8 (6)

Grade 12 AG students: Grades K (3), 1 (9), 2 (6), 3 (6), 4 (10), 5 (14), 6 (12), 7 (8), 9 (1)

Subjects which were studied through the use of above-grade-level materials:

Grade 8 AG students:	Reading (38), mathematics (28), English (8), Algebra (5), Science (4), Pre-algebra (3), literature; spelling (2), and Language Arts (1).
Grade 12 AG students:	Mathematics (40), Reading (26), English (20), Science (17), Language Arts (7), Algebra (5), History (2), Pre-algebra (1), and Social Studies (1).

In question 42, students were asked if they received additional work not assigned to non-AG students (Table 4.31).

Table 4.31
Question 42, Student Questionnaire

In elementary/elementary and middle school, did you as an academically gifted student receive assignments not given to the rest of the class in order to broaden and deepen your understanding of a subject? Please exclude the materials covered in question 41.

In the elementary grades/Grades 1-8, did you receive additional assignments not given to non-AG students? (Please check one.)

	8	12	
	7.9	15.4	☐1 Very often
	15.9	15.4	☐2 Often
	11.1	23.1	☐3 Sometimes
	19.0	20.5	☐4 Occasionally
	46.0	25.6	☐5 Almost never
Mean	3.79	3.26	
SD	1.38	1.41	

n=63

Students were asked in question 43 (Table 4.32) whether they took junior high or high school courses that had special titles indicating a more demanding level of work.

Table 4.32
Question 43, Student Questionnaire

In your middle or junior high/high school career, how many courses did you take that had special titles indicating that they were more intellectually demanding than the regular courses?

8	12	Number of courses taken	Title
0.28	4.12	________	Honors
0.50	2.12	________	Advanced Placement
1.62	2.50	________	AG or Gifted
0.24	1.53	________	Others

These are mean values rather than percentages.

Other types of courses mentioned and number of mentions:

Grade 8: Algebra (11), Math (3), English (1), Reading (1)

Grade 12: College prep (4), advanced courses (3), Calculus (1), Biology (1)

Next, students were asked the most important reason for taking these special courses (Table 4.33).

Table 4.33
Question 44, Student Questionnaire

What was the most important purpose in your taking the special courses? (Please check one only.)

8	12		
14.3	8.1	☐ 1	Your advisor said the courses would be best for you.
7.1	5.4	☐ 2	You wished to be with students who were highly motivated.
8.9	21.6	☐ 3	You felt you would get more out of the courses just as a matter of personal satisfaction.
44.6	59.5	☐ 4	You felt the courses would prepare you better for college.
25.0	5.4	☐ 5	Some other main purpose. (Please describe.)
n=56	n=37		

Description of other main purposes:

Purpose	Grade 8	Grade 12
Placed there because qualified	5	
Challenge, speed, qualified students	1	5
Better preparation for college	4	4
Better preparation for high school	2	
Make me think, different, excitement	2	
Don't know	1	
No other courses open	1	
AG since Grade 4	1	
Parents encouraged me	1	
Getting a jump on a career	1	
Credit	1	

"At first I was 'placed' in these courses, but as I began to get older I found these courses more challenging and better preparation for college."

"At my school, we do not have honors courses or weighted classes, so it was unfair to be in AG and get hardly any recognition, if any."

"For the work expected, honors do not give a proportionate amount of reward in terms of GPA."

Students were asked in question 45 how many years it took to complete grades 1-8 and/or grades 1-12 (Table 4.34).

Table 4.34
Question 45, Student Questionnaire

When you finish grade 8/graduate from high school this year, will you have taken 8/12 years to complete Grades 1 through 8/12, or more, or less?

7	8		
0.0	100.0	Grade 8:	Number of years taken to complete Grades 1-8

11	12		
2.4	97.6	Grade 12:	Number of years taken to complete Grades 1-12

This question was designed to confirm that any student who was advanced a grade was not later held back a grade. The one student who skipped a grade was not held back later.

Question 46 asked students if they had taken any advanced placement courses in high school that would allow them to earn college credits (Table 4.35).

Table 4.35
Question 46, Student Questionnaire

Have you taken, or are you taking, any advanced placement courses (in high school) that will result in your receiving college credit without having to take the course in college? If so, please enter the names of the courses below or check if none.

8	12	
92.5	50.0	☐ No advanced placement courses taken for college credit
7.5	50.0	☐ Course(s) taken in high school for college credit:

Names of courses mentioned—Grade 8: Algebra (5), Spanish, Academic English (1). Grade 12: English (15), Calculus (10), U.S. History (3), Government; Chemistry; Computer Science; Physics; French; Art; Biology; and Humanities (1).

Students were next asked if they had taken any courses at college, or by correspondence, that would earn them college credit (Table 4.36).

Table 4.36
Question 47, Student Questionnaire

Have you taken, or are you taking, any courses at colleges—or by correspondence with colleges—that will give you college credit?

8	12		
100.0	95.2	☐	No course taken at colleges for credit, on campus or by correspondence
0.0	4.8	☐	Course(s) taken at college or by college correspondence:

Courses taken—Grade 12: Calculus (at UNCW), computer course (1 credit), Intoduction to Criminal Justice, Constitutional Law, and Criminology.

Students were asked in question 48 about courses they had taken earlier than usual (Table 4.37).

Table 4.37
Question 48, Student Questionnaire

If you are taking/have taken courses earlier than usual in high school, please answer Questions 48, 49, and 50.

Please check the courses you took early.

8	12		Course	Grade Normally Taken
62.7	51.2	☐1	Algebra I	9
0.0	24.4	☐1	Biology	10
0.0	51.2	☐1	Geometry	10
0.0	68.3	☐1	Algebra II	11
0.0	2.4	☐1	U.S. History	11
1.5	26.8	☐1	Chemistry	11
0.0	15.0	☐1	American Lit.	11
1.5	17.1	☐1	Physics	12
0.0	15.0	☐1	British Lit.	12
6.1	29.3	☐1	Other	

Other courses taken early—Grade 8: Algebra I (2), Physical Science (2), Honors English; Pre-Algebra (1). Grade 12: Calculus (6), Advanced Math (5), Trigonometry; Pre-Calculus; Honors History; Advanced Biology; Spanish I; Spanish II; and Algebra/Trig. (1).

Table 4.38 indicates what students found advantageous about taking courses early.

Table 4.38
Question 49, Student Questionnaire

What were the advantages in taking these courses early?

Frequency of response and response.

Grade 8:	(11)	To get more math in
	(9)	Looking ahead to college
	(8)	To get to take more courses
	(5)	To be better prepared for high school
	(1)	"I can excel throughout my life by being one step ahead"; "To get them out of the way"; "The longer you put it off, the harder it is."
Grade 12:	(22)	To be able to take more higher level courses
	(2)	Prerequisites for science courses
	(1)	chance to compete on higher level; to catch up with other students at other schools; higher level of knowledge offered in course; to be on top, look good on transcript; in order not to take material already covered.

Similarly, Table 4.39 indicates whether or not taking courses early was beneficial to the student's later education.

Table 4.39
Question 50, Student Questionnaire

	12	
How helpful to your later education was taking the courses early? (Please check one.)	62.5	☐1 Very helpful
	25.0	☐2 Helpful
	12.5	☐3 Somewhat helpful
	0.0	☐4 A little helpful
	0.0	☐5 Not helpful at all
Mean	1.50	
SD	0.72	
	n=32	

Question 51 asked students about the frequency with which they received assignments not given to the rest of the class (Table 4.40).

Table 4.40
Question 51, Student Questionnaire

In middle or junior high/high school, did you or do you as an academically gifted student receive assignments not given to the rest of the class in order to broaden and deepen your understanding of a subject? (Please answer below.)

	8	12	
In grades 6-8/9-12, did (do) you receive additional assignments not given to non-AG students? (Please check one.)	13.6	2.7	☐1 Very often
	15.2	16.2	☐2 Often
	9.1	13.5	☐3 Sometimes
	15.2	18.9	☐4 Occasionally
	47.0	48.6	☐5 Almost never
Mean	3.67	3.95	
SD	1.52	1.25	

n=37

Table 4.41
Question 52, Student Questionnaire

To the best of your memory, in what grades were you classified as a gifted student? (Please circle the grades.)

	1	2	3	4	5	6	7	8	9	10	11	12
8	13.4	23.9	43.3	52.2	61.2	77.6	74.6	80.1				
12	11.9	19.0	31.0	52.4	64.3	71.4	71.4	78.6	85.7	90.5	92.9	92.9

Grade 12: n=54

In question 1, the students were asked how many years they had been in the AG program. In question 52 they were asked for the actual grades. The data indicate a positively decelerated function rising sharply to the fourth grade and leveling off fairly strongly after that, with little change in high school (Table 4.41).

Students were asked to describe the positive and negative aspects of the AG program as they experienced it. The results are given in Table 4.42.

The categories listed in Tables 4.42, 4.43, and 4.44 are defined as follows:

Curriculum:	Responses that related to curriculum content
Students:	Responses that related to how students were selected or grouped
Time:	Responses that related to how much time students were to spend studying
Environment:	Responses that related to facilities, equipment, and non-curricular materials
Management:	Responses that related to how curriculum, students, time, and the environment were managed to achieve goals and objectives
Outcomes:	Responses that indicated what outcomes were expected

Table 4.42
Questions 16-17, Grade 3 Student Questionnaire
Question 52, Grade 8 Student Questionnaire
Question 53, Grade 12 Student Questionnaire

Grade 3 AG students were asked:

> What do you like most about the AG program this year? and
> What do you like least about the AG program this year?

Grades 8 and 12 AG students were asked:

> In your own words, please tell us what parts of the educational program for gifted students have been most helpful and what parts have been least helpful?

The answers were summarized as follows:

- **Grade 3—like the most (number of comments and topic)**

Curriculum:	(5) Computers (1) History (1) Reading
Management:	(7) Chance to learn more (3) Hands-on activities (2) Brainstorming (1) Applying learning to life (1) Projects (1) Tests (1) Pen pal program

Table 4.42 cont.
Questions 16-17, Grade 3 Student Questionnaire
Question 52, Grade 8 Student Questionnaire
Question 53, Grade 12 Student Questionnaire

Outcomes:	(4) "Just fun." (1) Recognition (1) New friends

■ Grade 8—most helpful (number of comments and topic)

Curriculum:	(12) Mathematics (10) English (2) Writing skills (2) Public speaking unit (1) Science (1) Social Studies (1) Work in logic (1) Practice in decision making (1) Current events
Management:	(3) Individual help (3) Extra work (2) Acceleration (2) Freedom to be creative (2) Challenging classes (1) Variety in subject matter (1) Quicker pace (1) Hands-on experiments (1) Special activities
Outcomes:	(3) Preparation for future (2) Learning better study habits (2) Videotape sent to Soviets
Students:	(1) Leveled classes

■ Grade 12—most helpful (number of comments and topic)

Curriculum:	(7) English program (3) Advanced mathematics (2) Advanced science (1) Humanities courses (1) Good texts

Table 4.42 cont.
Questions 16-17, Grade 3 Student Questionnaire
Question 52, Grade 8 Student Questionnaire
Question 53, Grade 12 Student Questionnaire

Management:	(12) Motivated classmates/separate classes
	(3) Qualified teachers
	(3) Learning how to study
	(2) Individual attention
	(2) Variety of topics
	(1) Emphasis on individual creativity
	(1) Educational trips
Outcomes:	(8) Think on higher level
	(8) Prepared me for college

- **Grade 3—like the least (number of comments and topics)**

Curriculum:	(1) Violent movie
Students:	(1) Students who are not serious
	(1) Being absent
Management:	(2) Classes too short
	(2) Can't go every day
	(2) Inadequate coverage of material
	(1) Working
	(1) Missing material in regular class
	(1) Heavy homework load

- **Grade 8—least helpful (number of comments and topics)**

Curriculum:	(2) Typing class
	(1) French program
	(1) Spelling
	(1) Social Studies program
	(1) Study of the Presidents
	(1) Spanish
	(1) Science
	(1) Seventh grade AG Language
	(1) History
	(1) Lack of special programs
	(1) Useless information
	(1) Lack of textbooks

Table 4.42 cont.
Questions 16-17, Grade 3 Student Questionnaire
Question 52, Grade 8 Student Questionnaire
Question 53, Grade 12 Student Questionnaire

Management:	(3) Too much pressure
	(1) Disagreements in class
	(1) Too much work
	(1) Negative regard for gifted students ('nerd' factor)
	(1) Lack of time
	(1) Work too easy
Students:	(1) Segregation from non-AG students

■ Grade 12—least helpful (number of comments and topics)

Curriculum:	(2) Double load of same material (regular/gifted classes)
	(1) Redundant class work in class
	(1) No computers
	(1) English courses
Management:	(4) Class not taken seriously
	(3) No help with course selection
	(2) Too easy
	(2) Too much pressure
	(2) Not enough attention
	(2) Can't give regular classes enough attention
	(1) No weighted classes (for extra credit)
	(1) Classes not accelerated enough
	(1) Disinterested teacher
	(1) Not enough honors classes
Students:	(3) Not separated from other students

Third grade AG students were asked what they would like to see added to the program (Table 4.43).

Table 4.43
Question 18, Grade 3 Student Questionnaire

Is there anything you would like to see added to the AG program?

Their replies, in numbers and categories, follow.

Curriculum:
- (5) Sports
- (4) More computers
- (3) More learning games
- (2) More reading
- (2) Science
- (1) History
- (1) More variety
- (1) Art
- (1) Special AG classes

Time:
- (11) AG all day every day (more time)

Environment:
- (1) More classroom space

Management:
- (2) More trips
- (1) Safety rules
- (1) Smaller classes
- (1) More individual work

Table 4.44 indicates what 8th and 12th grade AG students want to see added to the program at various grade levels.

Table 4.44
Questions 53-55, Grade 8 Student Questionnaire
Questions 54-56, Grade 12 Student Questionnaire

Regarding the AG program, what would you like to see more of in the elementary grades, K-5? the middle grades, 6-8? high school, Grades 9-12?

The following indicates the numbers of responses and the categories.

■ Grade 8 students

Grades K-5:

Curriculum:

(7) More computers
(5) More Mathematics
(3) More Science
(3) More Foreign Language
(3) More advanced learning
(2) More English
(2) More Social Studies
(2) Higher reading levels
(2) More writing
(1) More variety
(1) More career instruction

Management:

(6) More field trips
(3) Better scheduling (AG should not cause student to fall behind in regular classes)
(2) More counseling
(2) More academic discipline
(2) More meetings
(2) More hands-on activities
(2) More AG teachers
(1) More variety
(1) More fun

Students:

(1) Need for tracking
(1) Smaller classes
(1) Earlier exposure to AG

Table 4.44 cont.
Questions 53-55, Grade 8 Student Questionnaire
Questions 54-56, Grade 12 Student Questionnaire

Grades 6-8:	
Curriculum:	(6) More computers
	(5) More variety in courses
	(2) More Science
	(2) More Mathematics
	(2) More Social Studies
	(2) More career instruction
	(2) More Foreign Language
	(2) More advanced learning
	(1) More writing
	(1) More extracurricular activities
	(1) Higher reading levels
Management:	(5) More field trips
	(3) More preparation for upper grades
	(2) More long-term projects
	(2) More meetings
	(1) More choice
Time:	(2) More time for AG classes
Students:	(3) Smaller classes
	(2) More classes with all AG students
	(1) Avoid segregation of AG students
Environment:	(1) More equipment
Outcomes:	(3) More recognition
Grades 9-12:	
Curriculum:	(7) More variety
	(3) More computers
	(3) More college preparation
	(2) More Science
	(2) More advanced learning
	(1) More Mathematics
	(1) More career instruction

Table 4.44 cont.
Questions 53-55, Grade 8 Student Questionnaire
Questions 54-56, Grade 12 Student Questionnaire

	(1) More Foreign Language
	(1) More Social Studies
	(1) More performing arts
Management:	(3) More field trips
	(2) More lab activities
	(1) More meetings
Time:	(1) Longer class periods
Students:	(1) Restrict classes to AG students
Outcomes:	(1) More recognition
	(1) Reduce negative image of AG students ('Nerd')

■ **Grade 12 students**

Grades K-5:

Curriculum:	(8) More Reading/vocabulary
	(7) More Mathematics
	(6) More Foreign Language
	(4) More computer skills
	(3) Advance non-academic talents
	(3) More Science
	(1) More writing
	(1) More grammar
Management:	(8) Academic discipline (motivation/challenge)
	(2) More fun
	(2) Educational trips (planetariums/museums)
	(1) Discontinue AG in elementary school
Students:	(1) Separate classes for AG students
Outcomes:	(2) More recognition
	(1) Reduce negative image of AG students ('Nerd')

Table 4.44 cont.
Questions 53-55, Grade 8 Student Questionnaire
Questions 54-56, Grade 12 Student Questionnaire

Grades 6-8:

Curriculum:	(6) More Science
	(6) More Mathematics
	(4) More Reading
	(3) More writing courses
	(3) More preparation for high school
	(2) More Foreign Language
	(1) More Social Studies
	(1) Environmental Education
	(1) More honors courses
	(1) More politics
	(1) More computer courses
	(1) More sports
	(1) Courses related to career interest
Management:	(4) More group projects
	(1) Qualified AG teachers
	(1) More independent study
	(1) More field trips
Students:	(1) Reduce negative image of AG students ('Nerd')
	(1) Activities for AG students only
Outcomes:	(1) More community awareness

Grades 9-12:

Curriculum:	(4) More Science courses
	(4) More Mathematics courses
	(4) More reading/vocabulary
	(4) Higher level work
	(2) More writing
	(1) More study of current events
	(1) Arts (Philosophy, religion, psychology)
	(1) Advanced technical classes
Processes:	(4) Meet professionals/seminars
	(2) Better preparation for AP tests
	(2) Educational trips

Table 4.44 cont.
Questions 53-55, Grade 8 Student Questionnaire
Questions 54-56, Grade 12 Student Questionnaire

	(2) Counseling/stress management (2) More dedicated teachers (2) Better preparation for selection of college courses (1) Courses weighted for credit
Students:	(7) Separate classes for AG students (1) Smaller classes
Outcomes:	(1) More recognition of AG students

In general, AG students were quite conservative in their views of AG education. They regarded the study of academic subjects, particularly mathematics, English, and science, as being the most helpful activities in which they were engaged as AG students. Interest in computers was noticeably high in Grade 3 and Grade 8, but had abated by Grade 12. Field trips were popular, with the older students being specific that the trips be educational: e.g., trips to a planetarium or a museum.

AG students were concerned that the learning environment be conducive to advanced work, and that they not be held back by a slow pace or repetitive instruction—either within a class or between regular and advanced classes. Many comments dealt with the lack of coordination and counseling. A small number registered major dissatisfactions with the program or with specific teachers. On the whole, however, students praised the AG program and wanted more. It should be clear, however, that the student's concept of the AG program included Advanced Placement classes and honors classes attended by students who were not classified as academically gifted.

Chapter 5—Results of Parent Survey

One questionnaire was sent by mail to the parents of each gifted student. A return envelope, addressed and stamped, was enclosed with each questionnaire. The initial returns were 47%, which was an unsatisfactory level of response. A follow up letter was sent to non-respondents, asking for return of the original survey questionnaire or, should that not be convenient, the completion of a tear-off coupon requiring only a check. A stamped return envelope was enclosed. The coupon question asked,

> Are you satisfied with the current gifted education program in which your child is enrolled?
>
> [ ] Yes [ ] Partially [ ] No
>
> and
>
> Do you have any suggestions for improvement of the gifted program?

The purpose of the coupon question was to attempt to discover whether the attitude of the non-respondents differed from the attitude of the respondents. A chi-square analysis of the returns (Chi-square = 5.99, n = 2) indicated that no difference existed. Apparently the failure of parents to return the original questionnaire had nothing to do with positive or negative attitudes regarding the gifted education program. Telephone calls to a few of the non-respondents revealed that some were satisfied to let the students speak for them. The main failure to respond seemed simply to be a low level of interest, perhaps brought about by the fact that in many cases the program played only a minor part in the student's instruction.

Since the results of the survey are believed to be comparatively unbiased, although the sample is small, an analysis of the results should be worthwhile. The first question dealt with the degree of importance the parent attached to the AG program. The results are given in Table 5.1.

Except where noted, all results are expressed as percentages and the sample sizes were as follows: Grade 3, n = 15; Grade 8, n = 27; and Grade 12, n = 17.

Table 5.1
Question 1, Parent Questionnaire

	3	8	12	
Is it important to you for your student to excel in school work? (Please check one.)	40.0	59.3	76.5	☐^{1} Very important
	53.3	37.0	23.5	☐^{2} Important
	6.7	3.7	0	☐^{3} Average importance
	0	0	0	☐^{4} Not very important
	0	0	0	☐^{5} Not important at all
Mean	1.67	1.44	1.24	
SD	0.62	0.58	0.44	

Compare the results of Table 5.1 with Table 4.12. Students almost uniformly believe that it is very important to their family that they excel in school. Those choosing the top category comprised 76%, 79%, and 69% of the total. Parents, however, did not equal students in their percentages until Grade 12, having percentages of 40%, 59%, and 76% in the top category of importance for the three grades. These results need further study. One possible explanation is that parents do not like to think that they are pushing the younger children, but the message gets across just the same. Another is that students from a young age understand even better than their parents what education will mean to their future.

No one, parents or students, thinks that the matter is unimportant (Tables 4.12 and 5.1). Deciding whether this is of more possible significance to gifted student outcomes than outcomes for other students must wait upon comparisons with data for all students. (This data, like all of the survey data, can take on its full meaning only when compared with baseline data for all students and all parents—not just gifted students and their parents.)

Parents have only a modest knowledge of the gifted education part of their student's work (Table 5.2). This probably influenced their willingness to complete and return the questionnaire.

Table 5.2
Question 2, Parent Questionnaire

	3	8	12	
How familiar are you with the gifted education part of your student's work this year? (Please check one.)	26.7	22.2	35.3	☐1 Very familiar
	20.0	37.0	23.5	☐2 Familiar
	46.7	33.3	29.4	☐3 Moderately familiar
	6.7	0.0	11.8	☐4 Slightly familiar
	0.0	7.4	0.0	☐5 Not familiar
Mean	2.33	2.33	2.18	
SD	0.98	1.07	0.44	

To the question of the kind of job the student's school was doing with the gifted education program, the average parent response was on the low side of "good," with a small proportion feeling that a poor or very poor job was being done (Table 5.3). Extreme responses were more common in Grade 12 than in Grade 3, indicating that the program may be more variable in quality there, or that more was expected but not received. It must be kept in mind that much of what parents and students respond to as the "gifted program" is in fact not a program supported by special education funding but by regular funding—particularly honors and Advanced Placement courses in high school.

Table 5.3
Question 3, Parent Questionnaire

	3	8	12	
From what you know of the gifted education program, what kind of job is your student's school doing with the program? (Please check one.)	20.0	22.2	33.3	☐1 Excellent
	40.0	44.4	33.3	☐2 Good
	33.3	22.2	13.3	☐3 Moderate
	0.0	7.4	13.3	☐4 Poor
	6.7	3.7	6.7	☐5 Very poor
Mean	2.33	2.26	2.27	
SD	1.05	1.02	1.28	

Parents felt that the AG program was an important part of their student's education this year, although the importance was significantly less for the Grade 3 gifted students (Table 5.4). The parents seemed to feel that the Grade 3 program was less important than the students did, perhaps because much of the instruction was not course-related. [The older students felt that more of the Grade 3 work should be course related (Table 4.44).]

Table 5.4
Question 4, Parent Questionnaire

	3	8	12	
Is the AG program an important part of your student's education *this year*? (Please check one.)	13.3	51.8	58.8	1 ☐ Very important
	53.3	18.5	29.4	2 ☐ Important
	20.0	14.8	5.9	3 ☐ Average importance
	6.7	7.4	0.0	4 ☐ Not very important
	6.7	7.4	5.9	5 ☐ Not important at all
Mean	2.40	2.00	1.65	
SD	1.05	1.30	1.06	

The majority of parents felt that the amount of homework the students were given was "about right" (Table 5.5). Any error was on the side of "not quite enough." Students agreed with parents on "about right," but reversed the table for the error, which was on the side of "a little too much" (Table 4.10). A minority of students appeared to be caught in a web of heavy homework assignments coming from all of their teachers continually, and parents seemed to have little appreciation of the impossible working conditions this created for the students.

Table 5.5
Question 5, Parent Questionnaire

	3	8	12	
How do you regard the total amount of homework assigned to your student in all of the student's classes?	7.2	0.0	0.0	☐1 Too much
	7.2	3.7	17.6	☐2 A little too much
	64.2	66.7	58.8	☐3 About right
	21.5	22.2	17.7	☐4 Not quite enough
	0.0	7.4	5.9	☐5 Too little
Mean	3.00	3.33	3.12	
SD	0.78	0.68	0.78	

In Table 5.6, a series of answers to questions are listed. Both parents and students (Table 4.19) gave some of their highest ratings to doing advanced work, improving credentials, and getting credit that would lead to a scholarship or financial aid. But parents also gave some of their highest marks—even higher than the students—to the student's having an opportunity to study special topics of interest to the student and the student's having a chance to study in a class where "everyone is highly motivated."

Table 5.6
Questions 6-16, Parent Questionnaire

An AG program offers some special opportunities for AG students. Considering the opportunities listed below, how important to AG education generally do you believe them to be? Please circle a number in each row to correspond to your judgment of importance, "0" being of no importance, "7" being of the greatest importance.

Please circle one number in each row.

					Relative importance					
			low		medium			high		
		0	1	2	3	4	5	6	7	Mean/SD
6. A chance for the student to talk things over and try out ideas on other gifted students.	3	0.0	0.0	0.0	0.0	33.3	20.0	13.3	33.3	5.47 / 1.30
	8	0.0	0.0	3.7	7.4	14.8	14.8	22.2	37.0	5.55 / 1.50
	12	5.9	0.0	0.0	0.0	5.9	29.4	29.4	29.4	5.53 / 1.70
7. A chance to find out more about a subject that interests the student.	3	0.0	0.0	0.0	0.0	6.7	33.3	26.7	33.3	5.87 / 1.00
	8	0.0	0.0	0.0	0.0	0.0	11.1	33.3	55.6	6.44 / 0.70
	12	5.9	0.0	0.0	0.0	0.0	5.9	35.3	52.9	6.12 / 1.70
8. A chance to study new topics not related to regular classes.	3	0.0	0.0	6.7	0.0	0.0	13.3	40.0	40.0	6.00 / 1.31
	8	0.0	0.0	0.0	0.0	0.0	29.6	18.5	51.9	6.22 / 0.90
	12	5.9	0.0	0.0	0.0	5.9	17.6	17.6	52.9	5.88 / 1.80
9. A challenge to think things through on the student's own, without help or direction.	3	0.0	0.0	0.0	6.7	13.3	20.0	53.3	6.7	5.40 / 1.06
	8	3.7	3.7	3.7	3.7	3.7	14.8	40.7	25.9	5.37 / 1.86
	12	11.8	0.0	0.0	0.0	5.9	5.9	25.9	52.9	5.65 / 2.29

Table 5.6 cont.
Questions 6-16, Parent Questionnaire

		Relative importance								
			low		medium			high		
		0	1	2	3	4	5	6	7	Mean/SD
10. A chance to get some recognition and respect for the student's talents from teachers and other students.	3	6.7	0.0	13.3	6.7	20.0	13.3	13.3	26.7	4.60/2.16
	8	0.0	0.0	3.7	11.1	14.8	25.9	14.8	29.6	5.26/1.51
	12	5.9	5.9	0.0	11.8	5.9	23.5	0.0	47.1	5.12/2.26
11. Doing work and getting credit that will lead to a scholarship or a financial grant.	3	6.7	13.3	0.0	13.3	6.7	0.0	20.0	40.0	4.80/2.57
	8	0.0	0.0	0.0	7.4	7.4	18.5	22.2	44.4	5.89/1.28
	12	5.9	0.0	0.0	0.0	0.0	11.8	23.5	58.8	6.12/1.73
12. A chance to do advanced work that will lead to better grades in college.	3	6.7	6.7	6.7	6.7	6.7	6.7	6.7	53.3	5.13/2.50
	8	0.0	0.0	3.7	0.0	7.4	18.5	14.8	55.6	6.07/1.30
	12	5.9	0.0	0.0	0.0	0.0	5.9	5.9	82.3	6.41/1.73
13. A chance to improve one's credentials as reflected on the transcript, thus improving the chance of getting the college of one's choice or the job one wants.	3	6.7	6.7	6.7	6.7	6.7	20.0	6.7	40.0	4.87/2.39
	8	0.0	0.0	3.7	3.7	0.0	25.9	18.5	48.1	5.96/1.32
	12	5.9	0.0	0.0	0.0	5.9	0.0	23.5	64.7	6.18/1.78
14. A chance to make contacts outside of school, as in a summer program (Governor's School, for example) or at museums and similar places.	3	13.3	6.7	13.3	6.7	0.0	26.7	6.7	26.7	4.13/2.59
	8	0.0	0.0	7.4	0.0	14.8	14.8	40.7	22.2	5.48/1.40
	12	5.9	0.0	0.0	0.0	5.9	23.5	29.4	35.3	5.65/1.73

Table 5.6 cont.
Questions 6-16, Parent Questionnaire

		Relative importance								
			low		medium			high		
		0	1	2	3	4	5	6	7	Mean/SD
15. A chance to meet and listen to important scholars or business or political leaders.	3	13.3	0.0	13.3	13.3	13.3	20.0	20.0	6.7	3.87 2.17
	8	0.0	0.0	3.7	7.4	22.2	18.5	29.6	18.5	5.18 1.39
	12	0.0	0.0	0.0	5.9	5.9	11.8	41.2	29.4	5.53 1.81
16. A chance to study in a class where everyone is highly motivated.	3	0.0	0.0	0.0	0.0	6.7	20.0	40.0	33.3	6.00 0.93
	8	0.0	0.0	0.0	0.0	3.7	11.1	29.6	55.6	6.37 0.84
	12	5.9	0.0	0.0	0.0	0.0	5.9	23.5	64.7	6.24 1.71

In Question 17 (Table 5.7), parents were asked about the purpose of a gifted program.

Table 5.7
Question17, Parent Questionnaire

What do you believe should be the main purpose of a special program for gifted students?

The responses to this question were categorized under six categories, namely,

Curriculum:	Responses that related to curriculum content
Students:	Responses that related to how students were selected or grouped
Time:	Responses that related to how much time students were to spend studying
Environment:	Responses that related to facilities, equipment, and non-curricular materials
Management:	Responses that related to how curriculum, students, time, and the environment were managed to achieve goals and objectives
Outcomes:	Responses that indicated what outcomes were expected

The results by the three grade levels are as follows. The numbers in parentheses are the numbers of responses. Multiple responses are included in the tally.

■ **Grade 3**

Curriculum:	(5) challenging (3) interesting (2) enriching (2) fun and creative (1) stimulating (1) advanced study
Students:	(1) group highly motivated AG students
Management:	(1) moderately competitive classroom (1) encourage independent work (1) encourage teamwork
Outcomes:	(3) to broaden their education (2) to better themselves/reach higher goals (2) to keep them in school/to continue studies (2) to develop students' talents (1) to avoid fostering elitist attitude

Table 5.7 cont.
Question17, Parent Questionnaire

■ **Grade 8**

Curriculum:	(4) Great variety of subjects
	(4) Challenging
	(3) Stimulating
	(2) Interesting
	(2) Advanced study
	(1) Encourage creativity
	(1) Experimental learning
Students:	(1) Study with peers
Management:	(1) Work at own pace
	(1) Concentrate work in area of interest
	(1) Do independent work
	(1) Allow students to stimulate each other
Outcomes:	(8) Higher motivation, greater enthusiasm for school
	(5) Learn to live up to potential
	(2) Provide good basis for higher education
	(1) Learn to use talents for others
	(1) Learn self confidence
	(1) Learn good study habits
	(1) Learn practical applications
	(1) Prepare student for employment

■ **Grade 12**

Curriculum:	(2) Challenging
	(1) Interesting
	(1) Enriching
	(1) Best available materials
Students:	(1) Group motivated students

Table 5.7 cont.
Question17, Parent Questionnaire

Management:	(3) Allow students to work at their proper levels
	(3) Reward work with scholarships
	(2) Recognize talent
	(1) Provide the best teachers
	(1) Encourage a disciplined learning process
	(1) Allow students to work at their own pace
Outcomes:	(4) Be prepared for college
	(2) Reach full potential
	(2) Maximize talent
	(1) Achieve a stronger curriculum
	(1) Learn more about areas of interest
	(1) Enhance desire to learn
	(1) Learn how to make own decisions
	(1) Broaden knowledge

From these comments, it is evident that parents have little specific advice regarding the purposes of AG education. They believed that the course of study should be challenging and engaging, and that the outcomes should include a better educated student. This was to be brought about through a variety of methods, many contradictory in nature (e.g., independent study, mildly competitive, in a team setting).

Parents were also questioned regarding the most helpful and least helpful aspects of the program (Table 5.8).

Table 5.8 cont.
Question 18, Parent Questionnaire

Please tell us in your own judgment what parts of the educational program for gifted students have been most helpful and what parts have been least helpful. Add additional pages if needed.

The results were categorized as follows:

	Most Helpful	Least Helpful
Grade 3		
Curriculum	(1) Computer skills (1) Rote learning (1) Superficial work	(2) Academic content
Management	(2) Creative outlet (1) Break from class routine (1) Field trips (1) Special projects (1) Sharing ideas (1) Accepting teacher (1) Accelerated basics	(1) Read/write report
Time		(1) Lack of time
Grade 8		
Curriculum	(5) Challenge/stimulation (4) Social Studies/English (1) Cultural activities (1) Enrichment opportunities (1) Spanish	(1) Science
Management	(3) Student sets own pace (2) Quality of teachers (high)	(1) Pulling AG students from regular class (2) Quality of teachers (low) (1) Lack of coordination with regular classes (1) Level of competence too low (1) Too much busywork (1) Lack of flexibility

Table 5.8 cont.
Question 18, Parent Questionnaire

	Most Helpful	Least Helpful
Physical Environment		(1) Lack of equipment
Outcomes		(1) Elitist attitude
■ Grade 12		
Curriculum	(3) Advanced work (3) English, Math, Science (2) College preparation (1) Stress on thinking and writing	(1) "pull-out" program
Students	(2) Intellectual competition	
Management	(1) Overlapping projects	
Outcomes	(1) Desire to make better grades	

Parents of Grade 3 students were strong on stimulation and a break from the routine, parents of Grade 8 students were more interested in academic material, and parents of Grade 12 students concentrated on academic preparation. The least helpful aspects of the program seemed to be identified mostly with coordination problems or with what was perceived as busywork.

With the risk of additional redundancy, parents were asked what they would like to see more of in Grades K-5, Grades 6-8, and Grades 9-12 (Table 5.9). The point was to look for patterns of change, either across the years for the same people or by people whose children had arrived at difference stages of elementary and secondary education.

Table 5.9
Questions19-21, Parent Questionnaire

In terms of education for gifted students, what would you like to see (or see more of) in the elementary grades (Grades K-5)?

In terms of education for gifted students, what would you like to see (or see more of) in the middle grades (Grades 6-8)?

In terms of education for gifted students, what would you like to see (or see more of) in high school (Grades 9-12)?

The results are given below:

- **Grade 3 parents**
  Grades K-5

Curriculum:	(4) More science
	(3) More mathematics
	(1) More writing skills
	(1) More computer skills
	(1) More exposure to the arts
Management:	(2) More frequent meetings
	(2) More independent projects
	(2) More contact with parents
	(1) More trips
	(1) More team projects
	(1) More creative opportunities
	(1) Involvement with private business
	(1) Greater acceleration
Students:	(1) Earlier identification

Table 5.9 cont.
Questions19-21, Parent Questionnaire

Grades 6-8

Curriculum:
- (2) Challenging work
- (2) More preparation for career
- (1) More exposure to arts

Management:
- (2) More preparation for career
- (1) More meetings
- (1) Development of mentor program
- (1) Outside input by private or federal agencies
- (1) More cooperation
- (1) Independent study

Grades 9-12

Curriculum:
- (1) Activities which would prepare students for college
- (1) Encouragement toward trades that allow students to work with hands
- (1) Advanced classes

Management:
- (1) More teachers
- (1) Students involved with community activities
- (1) Internships
- (1) Cooperation with universities
- (1) Outside input by private/federal agencies

■ **Grade 8 parents**
Grades K-5

Curriculum:
- (1) Experimental learning
- (1) More instruction on good habits
- (1) More creative work
- (1) Computers, science, mathematics
- (1) Cultural activities
- (1) Advanced classes
- (1) Subjects overlooked in regular classes

Management:
- (1) More time with AG teacher
- (1) Early identification
- (1) More time in media center
- (1) Change system to avoid make-up work in regular classes

Table 5.9 cont.
Questions19-21, Parent Questionnaire

	(1) Freedom for student to set own pace
	(1) More time for special interests

■ **Grade 8 parents for Grades 6-8**

Curriculum:	(3) Experimental learning/special classes
	(3) More Science
	(2) More challenging work
	(1) More computers, mathematics
Management:	(2) Parents more informed
	(1) More stringent rules
	(1) Qualified teachers
	(1) More development of student's abilities
	(1) Smaller classes
	(1) More outside input
	(1) Allow more time for AG classes
	(1) More projects
Physical Environment:	(1) More supplies

■ **Grade 8 parents for Grades 9-12**

Curriculum:	(2) Classes in History and Science
	(2) Mathematics, Science, Computers
	(1) Advanced courses
	(1) Experimental learning
	(1) More special classes
	(1) A program (none now available)
Management:	(2) Qualified teachers
	(1) Interaction with AG students at other schools
	(1) Cooperation between high school and college
	(1) More AG meetings
	(1) More outside input
	(1) More individual testing
Outcome:	(1) Better study methods

Table 5.9 cont.
Questions 19-21, Parent Questionnaire

■ Grade 12 parents for Grades K-5

Curriculum:	(1) Challenging work
	(1) More AG classes
Management:	(1) More help for slow learners

■ Grade 12 parents for Grades 6-8

Curriculum:	(3) Broader course offerings
	(2) More "in-depth" work
	(1) Foreign languages
Management:	(1) Better teacher preparation

■ Grade 12 parents for Grades 9-12

Curriculum:	(2) More college preparation
	(1) AG English (4 years), Mathematics (4 years), Science (3-4 years), and Social Studies (2-3 years)
	(1) More variety
	(1) More research/reading, writing
Management:	(1) Smaller classes
	(1) More encouragement, help
	(1) More interaction with other AG students in other states

In general, parents of Grade 3 children wanted more academic subjects for Grades K-5—particularly science and mathematics. Other trends were not strong, but the need for courses other than English courses appeared over and over. This probably reflects the accent in the AG program on communication skills subjects. Coordination of existing resources was of more concern to parents than the numbers of teachers or where the AG classes were held.

Chapter 6—Results of Teacher Survey

The method of presentation of results of the teacher survey will be to follow the order of the questionnaire, adding relevant summaries of comments as they occur. Except where noted, all results are expressed as percentages and the sample sizes are as follows: Grade 3, n = 12-13; Grade 8, n = 33-35; and Grade 12, n = 23.

Questions 1 and 2 of the survey asked the teachers to describe the gifted education program in their schools and to describe the specific gifted programs of the students selected to be in the study (Tables 6.1 and 6.2).

Table 6.1
Question 1, Teacher Questionnaire

In what format is the gifted education program administered in the above school? (Please check as many as apply).

3	8	12		
0.0	0.0	8.7	A.	Full-day classes for gifted students only
61.5	17.1	4.3	B.	Part-time grouping (pull out of classes)
7.7	45.7	73.9	C.	Cluster grouping of gifted with high achieving students (such as honor courses)
7.7	0.0	0.0	D.	Saturday classes
0.0	2.9	0.0	E.	Summer classes
7.7	8.6	13.0	F.	Counseling sessions
61.5	34.3	21.7	G.	Resource classes, less than full day
7.7	28.6	52.2	H.	Special accelerated subject area classes
0.0	2.9	4.3	I.	AG Learning Center for individual study
53.8	22.9	13.0	J.	Consultation with regular teachers to get special instruction in the classroom for the gifted student
0.0	0.0	13.0	K.	Instruction at a post-secondary school

Table 6.2
Question 2, Teacher Questionnaire

Which of the above are part of the gifted education program for the students who were selected in the sample for further study? (letters are OK):

3	8	12		
0.0	0.0	4.5	A.	Full-day classes for gifted students only
76.9	17.6	4.5	B.	Part-time grouping (pull out of classes)
0.0	50.0	63.6	C.	Cluster grouping of gifted with high achieving students (such as honor courses)
7.7	0.0	0.0	D.	Saturday classes
7.7	2.9	0.0	E.	Summer classes
0.0	8.8	18.2	F.	Counseling sessions
53.8	29.4	22.7	G.	Resource classes, less than full day
7.7	26.5	36.4	H.	Special accelerated subject area classes
0.0	0.0	4.5	I.	AG Learning Center for individual study
38.5	17.6	9.1	J.	Consultation with regular teachers to get special instruction in the classroom for the gifted student
0.0	0.0	9.1	K.	Instruction at a post-secondary school

The results from Questions 1 and 2 indicate that the students selected in the sample are receiving the same typical instructional format as all of the AG students within the school.

The results also show a gradual trend from pullout and resource classes with consultation in Grade 3 (76.9%, 38.5%, and 38.5% respectively), to a combination of instructional formats in Grade 8, to cluster grouping and special accelerated subject area classes in Grade 12 (63.6% and 36.4% respectively).

Question 3 asked each teacher to describe in detail the instructional formats of the gifted education program in their school that were indicated in Questions 1 and 2. The results do not lend themselves to summary, and are presented verbatim in Table 6.3. Some categorization is attempted under the six categories listed at the top of Table 6.3.

Table 6.3
Question 3, Teacher Questionnaire

Please describe the gifted education program of the listed students (see Question 2) in sufficient detail for an outsider to be able to understand what benefits they receive on a weekly basis.

The descriptions of specific gifted programs can be categorized as follows:

3	8	12	
18.2	0.0	0.0	Gifted program as the academic program with enrichment
			Gifted program as part of the academic program
9.1	21.2	13.0	• special AG classes
0.0	27.3	21.7	• special AG classes—English only
9.1	30.3	65.2	Gifted program as part of the academic program (i.e., Advanced Placement, Honors, or accelerated courses)
63.6	15.2	0.0	Gifted program as enrichment (pullout)
0.0	6.1	0.0	Lack of a gifted program

The gifted programs of the students sampled in this study are decribed below by grade level and type.

■ Grade 3

Gifted program as the academic program with enrichment

A[*] Nature and Ecology—90 minutes; Geographic Exploration, Learning through Experimentation, and It's a Small World—270 minutes; Beginning Writing Experiences—180 minutes; Dimensions—90 minutes.

S Students work in small groups and individually on special curriculum and enrichment in the content areas of reading, language, and mathematics. Annual goals in reading and Language Arts include: Expository writing, Junior Great Books, poetry, vocabulary building, word play and word processing. Annual goals in mathematics include calculators, simulations, problem solving, tangrams, flowcharts and logo programming.

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[*] To preserve anonymity, teachers are designated by letters. A letter followed by a number indicates different school programs within an LEA.

Table 6.3 (cont.)
Question 3, Teacher Questionnaire

Gifted program as part of the academic program (special AG classes)

R Students are given enriched classroom instructions that will help motivate them. They are sent to the computer on a regular basis. Home and class projects are assigned for individual interest. A consulting teacher periodically visits to bring materials and advise the classroom teacher.

Gifted program as part of the academic program

W The program is a pull-out type program and is centered around spelling as the academic content area. The students meet for forty-five minutes five times per week.

Gifted program as enrichment (pullout)

O The third-grade students are pulled out of their regular classrooms for one hour a week. During this time they receive enrichment services which are provided by the AG instructor. Classroom teachers are provided with suggestions and/or materials for the AG students whenever applicable.

E The students are served 1 hour a week in a pull-out program. The program is an enrichment program with emphasis on creative processes and the thinking operations. Activities to increase or improve problem solving skills, oral and written expression, and creativity are used at this level. The program is a continuing process which is used throughout the county. I serve four schools.

B Direct Resource—45 minute classes, 2 or 3 times a week depending on the needs and/or concerns of the children. Most of the activities that we do with our gifted children are geared towards the higher levels of thinking.

Q These students come to a special class with other AG students twice weekly for 1 hour. They are held responsible for work missed in the classroom at that time. The special class is taught by a teacher with AG training.

H At the beginning of the school year, the homeroom teachers, parents and I meet together to plan what will be done with the students during the year. Enrichment for the students is planned to supplement the basic curriculum. Higher-level cognitive skills, creative thinking activities, research skills, and other activities are suggested based on individual needs. I provide materials for teachers to use. During the year, I check with teachers and parents to see that needs are met and to provide additional materials. This is done weekly until teachers tell me all is going well. Then I check less frequently.

F These students experience 1-1/2 hours of enrichment per week. During this time, they experience a freedom in learning I don't feel they receive in their regular classes. Critical and creative thinking at high levels are taught through units in 5 areas: Self Actualization; Science/Technology; Math; Communication/Artistic Exploration; World Community. Because of time limits, some topics are not covered as in-depth as I would

Table 6.3 (cont.)
Question 3, Teacher Questionnaire

like. The students are eager to learn challenging material, benefit from the interaction with other gifted students, and enjoy the variance in their schedule of regular, often repetitious tasks they face in their regular class.

L The enrichment program focuses on the development of creative thinking skills, problem solving, and the development of higher levels of reasoning. (See GEP.)

■ Grade 8

Gifted program as part of the academic program (special AG classes)

M Both students receive communications skills instruction in a gifted class composed only of identified gifted students and taught by a teacher certified in AG. The class meets for 55 minutes daily. Although this is the only "official" AG class for these students, they receive instruction in algebra and science in classes composed of AG and honors students.

B-1 Daily grouped AG Language Arts and Math classes; consultation with grouped class (AG) teachers.

K-2 Students are grouped in Language Arts and Math so they can receive a higher level of instruction. Enrichment activities are an integral part of the program in all subject areas. Students participate in TIP, Mathcounts, Science Olympiads, Knowledge Master, Science Fair, Math Fair, and the Geography Bee.

K-1 In their daily English class, they study an accelerated vocabulary program rather than using the spelling book. They use a high school grammar and composition textbook. In literature, we use a state-adopted 8th grade book and the program is supplemented with novels (*Tom Sawyer, To Kill a Mockingbird, Animal Farm.*) In Pre-Algebra, they use a pre-algebra textbook.

A-1 Each student is grouped into AG level Language Arts and Math classes. They have the opportunity to select AG electives.

R These students receive advanced and extracurricular courses during the regular school day. Curriculum compacting is used as an extender for independent research. The students are in a three-way block in which two of their teachers are county AG Certified.

D-2 The two students are placed in language arts, social studies, and science classes with other AG students. About 50% of each class consists of AG students. The other 50% is supposed to be made up of high-achieving non-AG's but that is not the case always. Because of scheduling constraints, most AG students also end up in math together.

Gifted program as part of the academic program (special AG classes–English only)

T The students have access to a challenging curriculum and to peers who are equally talented. They acquire an early mastery of the basic language arts skills and move as quickly as their ability allows to higher level enrichment activities. There is an opportunity to encounter and use increasingly difficult vocabulary and concepts

Table 6.3 (cont.)
Question 3, Teacher Questionnaire

(examples: editing and publishing a book, journals, plays, etc.). The development of higher level thinking skills is also stressed. During any given week, the students may be participating in a Shakespearian recitation contest, producing original videos, working in the computer lab, working with the electronic mailbox, or participating in a writing workshop presented by a professional writer. (For further information, see the attached GEP.)

I-2 Compacted curriculum in spelling; faster pace in grammar; Bloom approach to use of knowledge; creative activities which involve leadership skills; student planning/choice within curriculum; oral communication skills stressed; logical thinking encouraged; varied materials used in addition to state-adopted texts.

F-1 Detailed discussion of literature (in-depth study possible only with gifted grouping). Faster pace in the program which allows time for more enrichment/permits more material (literature, grammar) to be studied. Seriousness of purpose which allows me to take students to the theater/performances of Shakespeare because I know they will both appreciate/enjoy and behave!

O These students meet daily for 90 minutes of instructional time in a language arts-social studies block. There are fifteen AG students in the class. Grade level and advanced curriculum with emphasis on higher-level thinking skills are the basis of the program. Students utilize the writing process through their language arts and social studies. Their reading program includes various genres, Junior Great Books, and vocabulary studies.

Gifted program as part of the academic program with enrichment

S Student 1 and Student 2 are placed in classes with the eighth-grade high achievers. All of these students attend classes which are regular classroom setting. However, their instruction is geared toward a higher-level instruction. All of the students take Algebra 1. Their Language Arts classes are total enrichment, focusing on grammar and literature. I also teach the AG/high-achieving students Reading. We also focus on literature and other high-interest reading activities.

J-1 There is no structured program, no AG teacher; however, AG students are in high-achieving classes, with academics geared to their ability. Materials specifically for AG students are implemented into the curriculum.

X Our program uses acceleration, curriculum compacting, higher-level thinking skills, and develops affective and intuitive skills in students.

C-1 The listed students receive instruction in Language Arts, Social Studies, Math, and Science that extends and enriches the state-adopted curriculum. There is more emphasis on application, analysis, synthesis, and evaluation of subject matter than provided in the regular classes at this school. Weekly, students are given independent assignments where they are given opportunities to express themselves creatively, problem solve, and work on activities using higher-level cognitive abilities.

Table 6.3 (cont.)
Question 3, Teacher Questionnaire

D-1	There is no specific program. Students are grouped together for Language Arts, Social Studies, Science and Math and are provided with enrichment to the standard course of study.
	Gifted program as part of the academic program
Q	Students are in accelerated classes for academic subjects. They have AG as an elective for 2 hours per week, being pulled from P.E. and health class. For this class they must meet with an itinerant teacher with certification in AG.
E-1	The AG students are members of a cluster selected from previous higher academic performers. The class meets two hours daily—once in English and once in Social Studies while engaging in an in-depth study in grammar and literature on a high level of learning strategies.
F-2	Extension and/or enrichment of some materials in science and social studies. In Language Arts students are just in an advanced class. In math they are taking Algebra. However, there is no enrichment in these classes.
C-2	They are involved for two periods a day (one for English and one for Math) along with other AG students and high achievement students. These classes are taught at an accelerated level.
N	Student 1 and Student 2 qualified for the Advanced Language Arts class. The class is a combination 7-8 (53 minutes per day) class. Studies include literature, English Grammar, Vocabulary Development and Writing. Creative activities extend and enhance the classroom learning situation. We follow the N.C. Competency Goals and Basic Education Plan and differentiate from this point.
W	All students are tracked in high, middle, and low groups. AG students attend top-level classes and their "reading" class is taught by the AG teacher, who emphasizes literature as well as problem solving and higher thinking skills.
L-2	Our special program operates at all 3 grade levels: 6, 7, and 8. Identified AG students are grouped with high-achieving students in a full-sized class of English and Social Studies (a block) in the 6th grade. 7th and 8th graders are grouped for the above block of subjects plus Pre-Algebra and Science (7th) and Algebra I and Science (8th). Thus, the program is almost full-time AG.
B-2	Student 1 is identified as verbal only, whereas Student 2 is a composite (verbal and math) identification. Both are in an Academic (accelerated) Language Arts class for which I provide consultation services. This mainly consists of supplies—classroom sets of reading/activity materials beyond the regular curriculum. Student 2 also has Algebra I, which is math acceleration one year ahead of the other classmates.
E-2	Our gifted education program in the eighth grade is a curriculum-based program in Language Arts, Social Studies, and Math. Teachers are responsible for providing enrichment as well as instruction in the development of basic skills. Gifted students are clustered with nonidentified students who are working at a high level of achievement. Students receive instruction one class period per subject each day of the week.

Table 6.3 (cont.)
Question 3, Teacher Questionnaire

L-1 The students are enrolled in accelerated classes in Math, Language Arts, and Science. Teachers of these classes try to cover not just more of the content area but also to include special assignments and projects which challenge the AG students to think and work more creatively.

Gifted program as enrichment (pullout)

I-1 These students are pulled from their regular classroom for one hour and a half each week. It is an enrichment type program that follows a curriculum along with other areas of study that the teacher may consider appropriate.

J-2 We have just set up a computer program in the media center that students will begin after the CAT.

P There is one teacher (AG) assigned to serve AG students in grades 6, 7, and 8. It is an itinerant position (teacher serves 4 other schools), working with students in two period blocks of time, one day per week. The program is an enrichment model, extending and enriching the BEP. It operates within the academic disciplines and is content based in the areas of Language Arts, Math, Social Studies, and Science. The program also includes units on problem-solving, logic, and research. The delivery approach to these areas is through "units of study" method, whereby a particular subject is studied for several weeks, usually 3-6. Whenever special opportunities for study, exposure, or involvement in interesting areas present themselves, every effort is made to take advantage of them, i.e., the Rameses Exhibit—a 6-week in-depth study preceded a PAGE sponsored field trip to Charlotte.

H-1 Both students come to AG weekly on a regular basis. They come with a group of 12-14 AG 8th-grade students during a 1-1/2 hour block of time. Our program is based on a 3-year plan (grades 6- 8). We cover the curriculum areas stated in #7. Our program is an "Extended Enrichment Program."

G-1 Each AG student receives one hour each week of AG service. For the school year 1988-89 students have been pulled from elective course time to work with the AG teacher on the following curriculum: Politics—national and local government; Communications—debate; Science—you and your environment; and Critical and Logical Thinking. The program consists of a series of mini-units each lasting twelve weeks.

Lack of a gifted program

U None. Unfortunately, our school system only provides direct AG services to students in grades 4-6. Therefore, these junior high students have no contact with an AG program.

G-2 Eighth graders have not been included in the program at this school because of a conflict with math classes.

Table 6.3 (cont.)
Question 3, Teacher Questionnaire

■ Grade 12

Gifted program as part of the academic program (special AG classes)

C-2 Student 1 is enrolled in a new course Humanities II at the Center for Excellence in Arts and Humanities. It is a two-hour block class combining World History and World Literature. This course is especially suited to a creative person such as Student 1 because of the variety of assignments and the seminar approach to teaching.

B-2 The AG students are grouped into classes according to their area of AG identification. Their classes meet daily. I meet with the regular classroom teachers and provide them with a special inventory of AG materials available for their use. The English teacher has written an addendum stating the differentiated activities and materials which she does in the AP Language and Composition course. The AG seminars for enrichment have been scheduled one per nine weeks.

A-2 Both students have been in AG English classes in 10th and 11th grades and both are currently enrolled in AG English. Student 1 takes accelerated Math and Science courses.

Gifted program as part of the academic program (special AG classes–English only)

H-1 The Gifted program at this school is subject oriented and is used in place of enrollment in a regular English class. The curriculum is predominantly academic and is designed to give the individuals in the class as much opportunity as possible to discover and to develop their maximum potential. The small class size allows opportunity for greater interaction and expression.

W These students study English literature the whole year. As an integral part of this course, they practice writing and speaking skills which have been acquired in prior years. These students read, discuss and think more. They are expected to do creative work by using knowledge and ideas gained from earlier work. Students are challenged to think on higher levels.

H-2 We follow the basic curriculum for seniors—English literature and grammar review. We cover much additional material: books, two additional textbooks, videos, etc. The class is not a lecture class, but one that tries to encourage student participation in a relaxed atmosphere.

R These students read and write more than the average student. Discussions are generally on analysis level rather than recall.

F-2 Intense reading of literature at the college level. Critical analysis of literature requiring higher thinking skills. Writing of critical essays based on critical analysis of literature.

Table 6.3 (cont.)
Question 3, Teacher Questionnaire

Gifted program as part of the academic program

A-1	These students are state-identified gifted students, but they are taking the advanced placement senior English course. The course follows the AG county guidelines and curriculum; there is considerable enrichment through guest authorities, movies, etc. Effort is made to relate readings and assignments to critical and analytical thinking skills.
O	These students are enrolled in our Advanced Studies Classes, which are made up of students who have obtained 85% or above on the California Achievement Test. Their curriculum is strong in analytical skills, and they do a great deal of additional reading, research and writing.
B-1	Student 1 has been an AG student for the entire three years. Student 1 has participated in counseling sessions when they discussed Governor's School, scholarships and course options. Student 1 was a member of an accelerated English class as a sophomore and has continued in Advanced Placement courses in the Junior and Senior years. Student 1 has also participated in every Enrichment series that has been offered.
F-1	Gifted students are expected to work faster and complete more assignments in all areas than the average students. They are encouraged to do creative writing, additional research, extra projects, attend cultural events, and develop individual interests.
S	They have the choice of taking Advanced Placement or College Preparatory English.
V-2	Student 1 and Student 2 are in an Advanced Placement English class geared toward preparing them for the AP exam. The course is structured on a 4-year plan (based upon the N.C. Standard Course of Study) which stresses composition, research, and literature analysis skills. The reading and writing elements of the course are more stringent than those of a regular classroom. Leadership in seminar-type discussion is strongly urged.
G-1	A reading-intensive course focusing on the subject and theory surrounding it where students attend regularly and participate actively. Emphasis is equally on written expression and demonstrating proficiency on the AP exam so that students may gain college credit.
L-1	Again, they did not participate. However, the other two students (Students 3 and 4) followed the prescribed program: Honors I, II, III, AP. They were told of opportunities for gifted students, and Student 4 attended Governor's School.
K-1	Both students are involved in honors English programs ending in an AP English class their senior year. Student 1 is involved in AP History, AP English, and AP Calculus courses. All these courses offer advanced studies, readings and research.
L-2	These 2 students are enrolled in Honors/Advanced Placement English, math, chemistry and History.
R	As a student in my Calculus class, Student 1 receives daily instruction in higher-level mathematics. Each member of the class is required to do a specific project for display in the spring.
C-1	Each student has accelerated subject area classes daily. A schedule is included.
G-2	They receive no benefits on a weekly basis. Student 1 is currently enrolled in the ECU Honors Med. Program. Student 2 is taking Honors Level Courses.

Table 6.3 (cont.)
Question 3, Teacher Questionnaire

J-2	The Educated Gifted Program at this school is basically individual classroom teacher oriented. Specific challenges within the classroom setting are used. Special or different tests and special projects are encouraged by teachers for the gifted students in our classrooms.
V-1	The 12th grade AG offering is an honors International Relations class. Curriculum is driven by a college-level reader (collected essays), augmented by a number of journals (*Foreign Affairs, C.S. Monitor, World Press Review*) as well as material from the Close Up Foundation. Naturally, such a course relies on current affairs for a portion of our weekly offerings.

Whereas Questions 1, 2, and 3 asked the teachers to describe the format of the gifted education program in their school, Question 4 asked the teachers to determine which parts of the gifted program are funded by the state's allocation of money. The results are given in Table 6.4.

Table 6.4
Question 4, Teacher Questionnaire

Which of the above benefits are funded directly from the state's allocation of money for gifted students?

3	8	12	
84.6	50.0	26.1	All
15.4	32.1	17.4	Materials
0.0	3.6	4.3	Resources
0.0	21.4	43.5	None
0.0	7.1	8.7	Not Known

In Grades 3 and 8, the majority of the AG programs sampled were totally funded by the state (84.6% and 50.0% respectively), while at Grade 12 only a quarter of the AG programs sampled were totally funded by the state and almost half (43.5%) received no funding from the state at all. This may be related to the results of Questions 1 and 2, which stated that at Grade 12 the AG programs consist mainly of cluster grouped and special accelerated courses taken by AG students as well as other high-achieving students. The difference in the nature and duration of instruction at the two levels, however, prevents any firm conclusions about the typical division of AG funds between elementary and secondary education.

Questions 5 and 6 asked teachers to describe which instructional strategies are used to implement the gifted education program within their schools. The results are given in Table 6.5.

Table 6.5
Question 5, Teacher Questionnaire

Which of these strategies are part of this school's gifted education program? (Please check as many as apply.)

3	8	12	
30.8	11.4	8.7	A. Grade skipping (allowing a gifted student to skip one or more grades)
15.4	5.7	8.7	B. Telescoping of work (such as doing three year's work in two years) (May lead to grade skipping)
7.7	11.4	4.3	C. Subject skipping (allowing a student to skip a year's work in one or more subjects—mathematics, for example)
30.8	40.0	56.5	D. Early subjects (allowing a student to take a subject earlier than the grade level it is normally taken) (May follow from subject skipping)
0.0	31.4	73.9	E. Advanced courses (allowing a student to take an advanced course early)
n=7	n=21	n=19	

Judging from the results of Question 5, the gifted program of Grade 3 students generally consisted of grade skipping and taking subjects early (30.8% for each) with some telescoping of work (15.4%). (It may be noted here that, in the entire sample, only one student had skipped a grade, the strategy being more honored in principle than in practice.)

The gifted program of Grade 8 students moves towards the taking of subjects early (40.0%), usually Algebra I, and the taking of advanced courses (31.4%).

In Grade 12 an even greater proportion of the students took early subjects (56.5%) and advanced courses (73.9%), such as Calculus.

Question 6 on the next page asked the teachers to describe in further detail the strategies that were indicated in Question 5 as being used to implement the gifted education program within their schools. Here again, comments are given verbatim (Table 6.6).

Table 6.6
Question 6, Teacher Questionnaire

The strategies in Question 5 are not clearly demarcated. You may need to explain in more detail to make clear how this school's gifted education program handles those strategies (if they enter the program at all).

The strategies of a gifted program listed in Question 5 are grade skipping, telescoping of work, subject skipping, taking subjects early, and taking advanced courses. These strategies may be employed separately—in Grade 9 taking AP Biology rather than physical science, or in conjunction—taking Algebra I in Grade 8, thus making room for Calculus in high school.

The descriptions of how these strategies are employed in the gifted program of a specific school are categorized below by grade level and strategy. Where a description did not fall into any of the categories it was included in a group of comments labeled "No specific strategy used."

■ Grade 3

Telescoping of Work

F Some teachers in the regular classroom allow students to progress at their own speed. This acceleration leads to "telescoping" and has led to one instance of grade skipping, although this practice is highly discouraged.

Early Subjects

O All of the AG students are working at least a year above grade level. Because of the similarities in the 5th and 6th grade math curriculum, the 5th grade AG students will complete the 6th grade curriculum this year.

E The students work with the fourth grade class in reading. Teachers provide individual work in math for one student. Additional skills on the computer are also used to provide more challenge to the students.

S On occasion, during our AG resource class, I pull students to work individually on higher-level thinking skills not addressed in the regular class. These skills may be above their grade level.

B Some children are above grade level in reading, for example, and may go up to the next grade for that subject.

No specific strategy used

A The AG curriculum is specially tailored to meet the needs of gifted children at each grade level by extending the basic curriculum and developing higher level thinking skills. It is taught by teachers trained in gifted education.

L N/A. Totally an enrichment program.

Table 6.6 (cont.)
Question 6, Teacher Questionnaire

■ Grade 8

Telescoping of Work

M	Telescoping of work. Within the AG communications skills curriculum, content relating to basic skills already mastered is telescoped, thereby providing opportunity for enrichment.

Early Subjects

R	Algebra is the only course offered in advance for AG Math for 8th graders.
S	Our students are now involved in Algebra I.
C-2	Students may take Algebra I in 8th grade.
I-1	The only way it handles these strategies is by allowing eighth graders to take Algebra I. However, this is considered a "top block" rather than an AG class.
D-1	Some of the AG students may take high school Algebra in the 8th grade.
B-2	Accelerated math courses allow students to move faster in the class/subject matter. AG Language Arts provides higher level reading/activity materials.
P	Algebra 1 is taught at 8th grade level, so that students may move into Geometry at 9th grade level. This is a class provided for all students who appear ready and able to function on this level, not just AG identified students.
K-1	Pre-Algebra is offered rather than regular eighth-grade mathematics. An AG-certified teacher instructs AG and high-level students in this course.
H-2	None are used although the majority of my AG students currently take Algebra I at the 8th grade level. Non-AG students are also in this class.
X	Pre-Algebra is one of the early subjects taught to seventh and eighth-grade students. Advanced literature is taught to sixth through eighth graders. Advanced grammar is taught to seventh and eighth-grade students.
H-1	Gifted math students may take Algebra I in 8th grade if they qualify based on local criteria.
G-1	Algebra I, Physical Science.
C-1	Math for academically gifted students in 7th & 8th grades involves taking Pre-Algebra and Algebra a year earlier than other students enrolled in this school.

Advanced Courses

E-1	Students are geared to a higher level of learning. More detailed information is presented, and students respond with appropriate answers.
K-2	Some students are allowed to take courses at the high school because they have demonstrated exceptional ability in a particular area of study.

Table 6.6 (cont.)
Question 6, Teacher Questionnaire

L-1 Strategies A and C are rarely used. In the last 5 years only 2 students have been affected. D and E are the strategies used for almost all AG students—usually in Math, Language Arts, and Science.

No specific strategy used

Q Most of these strategies have not been used as we have not had a student for whom they seemed appropriate.

F-1 Subject skipping happens rarely. (Maybe when someone transfers in and needs to skip).

B-1 School Based Committee's decision based on student's needs. Typically, these are not common options.

G-2 We have had three mini-courses: (1) Politics and Advertising; (2) Environment; (3) Critical Thinking.

■ Grade 12

Early Subjects and Advanced Courses

K-1 Advanced or honor students are placed in both math and English classes after a screening process. Math students are allowed to double up their sophomore year with Algebra II and Geometry.

H-2 The students who are classified as AG in math are allowed to take advanced courses early. N/A in English.

G-2 8th and 9th-grade gifted students are allowed to accelerate their math and science (i.e. Algebra 1 in 8th grade and Geometry in 10th-grade). Gifted science students may opt to take Advanced Chemistry or Biology concurrently with the prerequisite.

L-1 We also allow our gifted students to take courses at UNC-A if our curriculum does not offer what the student needs. Our 10th-grade Honors students have American Literature which is traditional 11th-grade fare. 9th-graders cover much of the materials traditionally offered in the 10th grade.

A-2 8th-graders may take Algebra I, thus skipping 8th-grade math. They may take higher-level math in high school. 9th-graders may skip Physical Science and take Biology. Advanced levels of Geometry, Algebra II, Biology, and Chemistry are offered to AG students.

J-2 The guidance department, with teacher concurrance, allows students to take subjects and advanced courses early.

B-2 AG students as seniors take AP Language and Composition because as juniors they took Senior English. In math, the AG students begin in the seventh grade with Pre-Algebra, 8th-grade Algebra I, 9th-grade Geometry, 10th-grade Advanced Alg. II, 11th-grade Advanced Math and 12th-grade AP Calculus. They are a year ahead of the regular curriculum.

Table 6.6 (cont.)
Question 6, Teacher Questionnaire

R	In math, gifted students are allowed to take Geometry in the ninth grade (instead of Algebra I), then follow the sequence Algebra II, Advanced Math, Calculus. In addition, if a student is highly gifted (as in one case last year), he is allowed to enter classes at an early age. Another student took Trigonometry in a college summer program and took Calculus during her sophomore year.
	Early Subjects
C-1	Students may elect to take Biology as an Honors 9th-grade course and Algebra I in 8th grade. This earlier sequencing allows them to take more advanced placement classes for college credit.
V-2	By scheduling courses, students in AG could place themselves into classes before the remainder of their classmates reached those classes. They may also request early graduation.
O	Algebra I is available in the 8th grade.
	Advanced Courses
A-1	Students are allowed to take Advanced Biology rather than Physical Science and AP History rather than regular U.S. History.
V-1	Much of our gifted program is focused on Advanced Placement courses with a mandatory sitting for AP Exam (Junior year) and a strong push for AP European History the senior year.
W	In our Gifted classes all courses are advanced one year. For example, term paper is taught in normal classes at grade 12 - in our classes at grade 11. The basic composition courses usually taught at grades 10-11 are taught at 9-10. The senior year is reserved for in-depth study and practice of all skills as well as encompassing additional materials and providing students an opportunity for special study.

The previous questions have dealt with the context of the gifted education program—the format, the strategies employed in delivery, and the funding. Question 7 asked teachers whether the students within the program attended classes that were not content-oriented. The results are summarized in Table 6.7.

Table 6.7
Question 7, Teacher Questionnaire

So far we have asked about the context within which instruction occurs, without being specific about content. In this school, do gifted students attend special classes that do not have the usual subject area content as their focus? If so, please describe:

3	8	12	
33.3	58.1	87.0	No
67.7	41.9	13.0	Yes

n=32

From Grade 3 to Grade 12 there is a decrease in the proportion of schools with special classes that do not have the usual subject area content for AG students (67.7% in Grade 3 , 41.9% in Grade 8, and 13.0% in Grade 12). Verbatim descriptions of the special classes are given below in Table 6.8.

Table 6.8
Question 7—Comments, Teacher Questionnaire

The descriptions of these special classes are categorized below by grade level and content. The content of these special classes can be categorized as classes that emphasize thinking skills and creativity or classes that emphasize specific academic content not typically covered in school. Where a description did not fall into one of the above groups it was categorized as "No special classes."

■ Grade 3

Special classes that emphasize thinking skills

O The 4th and 5th-grade students receive all of their Language Arts and Math instruction with the AG teachers. The third-grade students receive enrichment services. We concentrate on projects and activities which require the higher-level thinking skills of analysis, synthesis, and evaluation. We also work on fluency and flexibility skills through reading, writing, speaking and role playing. Some of our activities have included writing books, participating in "The Carolina's Future Problem Solving" program, and creating original fables.

Table 6.8 (cont.)
Question 7—Comments, Teacher Questionnaire

E	Yes, the students have a process-based program which is continuing. The emphasis is on creativity and thinking. Areas of subject matter are used in these activities but are not confined to a text.
S	Only the AG resource class.
H	Students in grades 4-8 receive enrichment beyond the basic curriculum of the classroom in a resource class. Students are given high-level activities that provide challenges and motivate them to achieve. Thinking skills, problem solving, logic and deduction, creative thinking, research and study skills, self-awareness, giftedness and what it means, independent studies on many topics, cultural arts, enrichment to social studies and science areas are provided in the program.
F	The curriculum units I teach have particular yet broad guidelines. Within these guidelines, I have the freedom to develop my GEP to suit the schools where I teach. Usually my curriculum topics are related, but not too closely, to the regular curriculum. I have found regular teachers often feel you are stepping on their territory if you teach too closely to their curriculum; within the curriculum I develop problem solving, questioning techniques, research skills, and self-concept.
L	Yes, enrichment in the areas of creativity, brainstorming, problem solving, communication skills, reasoning skills and overall higher level thinking.
B	Yes. Our program is purely enrichment. We do not take the place of anything being taught in the regular classroom. We do, however, include some activities to enrich some of the skills being taught in the regular classroom.
Q	Yes, the content of the AG class includes thinking skills and problem-solving activities. It is not tied to any particular content area.

No special classes

A	The county is developing and revising a set of curriculum guides to meet the needs of AG students in a magnet setting. These guides present children with more advanced and enriched material. I am involved in writing some of these guides.
D	Enrichment activities in all subjects.

■ Grade 8

Special classes that emphasize thinking skills

Q	Yes. The AG elective courses focus on creativity, problem solving and thinking skills without being tied to a particular content area.
W	AG class: 50% content is reading curriculum and 50% is problem solving-higher-level thinking skills and coping strategies.
A-1	We offer an elective program that enhances the academic program. Some classes focus on thinking skills rather than a specific subject.

Table 6.8 (cont.)
Question 7—Comments, Teacher Questionnaire

I-1	Yes, their AG enrichment class. They also have Saturday morning classes available to them through PAGE, but these children do not participate.

Special classes that emphasize academic content

J-2	The computer program we are beginning will give them experiences beyond the classroom exposure.
B-1	AG elective class offered to seventh and eighth-graders.
B-2	(Not special classes, but special materials in AG Language Arts.) Special class is AG Enrichment Elective for 7th and 8th-graders, a 2-year 10-11-unit program, which, generally speaking, provides month-long emphasis on various topics.
P	PAGE operates a February Saturdays program each year, which offers 4-1/2 day classes in subjects as varied as cooking to Japanese culture.
H-2	Yes. Our program is an enrichment program. We have quiz bowl and debating teams and emphasize public speaking. Some activities have involved designing and constructing. I attempt to include activities in every core subject area with special emphasis on the area in which the AG child is identified.
H-1	Yes, our students are pulled out for approximately 2 hours a week. Our local curriculum guide content areas are math/science, communications, and humanities. Throughout the 3 years we work with the students, we complete units on the following: quiz bowl (knowledge of world, technology, science, arts, etc.), video productions, B/W photography, debate, independent study, speech, logic, art, journal writing, government, creative dramatics, visualization, drama, Shakespeare plays, Washington D.C., NCSSM.
G-1	Each AG student receives one hour each week of AG service. For the school year 1988-89 students have been pulled from elective course time to work with the AG teacher on the following curriculum: Politics—national and local government; Communications—debate; Science—you and your environment; and Critical and Logical Thinking. The program consists of a series of mini-units each lasting twelve weeks.
O	N/A. Note: Our gifted students are involved in Mathcounts, History Bowls, Battle of the Books, etc. Some of these activities require students to meet for special classes.

No special classes

E-1	Students attend only two hours of accelerated training. Their remaining daily class time is in the mainstream of regular classes.
I-2	No, but within Language Arts students are taken beyond; also in Math—Algebra is offered. The Language Arts class is made up of only AG students.
L-2	No—We offer an accelerated academic program, not an enrichment, pull-out program.
C-1	No, AG classes are an extension and enrichment of the regular curricula.
L-1	Some attend special classes such as computer programming and Mathcounts. The students in these classes are not all AG students.

Table 6.8 (cont.)
Question 7—Comments, Teacher Questionnaire

■ Grade 12

Special classes that emphasize academic content

V-1	Only in the senior year. Our tenth-grade year is an Honors World Cultures class, eleventh grade is an AP U.S. History class (see #6) and until this year, the twelfth grade class was AP European History. We introduced Int'l. Relations this year as an alternative for gifted students.
V-2	They may take satellite courses if they have special interests.
C-2	Through the Center for Excellence other classes such as Dance, Art, etc. are offered.
B-1	The Enrichment Series has speakers on various psychological and subject matter for the AG students only. In the English classes this student has special novels to read that are not covered in regular English classes as well as creative approaches to subject matter (ex. video taping original dramas, etc.)

No special classes

A-1	Yes. AP English has a specially developed literature and writing program which extends far beyond that for the other students. Levels 9, 10, and 11 also have a special advanced curriculum.
C-1	Yes. This year's seniors will be the last class to take world literature as seniors. This has enabled honors teachers to cover much more literature on a higher level and allowed senior teachers to coordinate and synthesize all their prior knowledge, thereby assuring that all major works and all forms of analysis are covered.
S	Attend classes that give college credit (12th grade).
B-2	Nothing other than the AP Language and Composition and AP Calculus. They may elect to take other AP classes such as AP American History or AP Biology as they desire.
W	Please see #6. In addition to #6, we also provide instruction so that those students who desire to do so may pass the AP test in English.
R	In AP English, we do follow the state curriculum but with some variation.
F-1	Insofar as book titles, movies, and other assignments are chosen specifically for gifted students, their subject area content is not the usual (or average) content.
L-1	No. Not specifically. The classes are, however, designed specifically for AG students. Please note above comment related to 9th and 10th-graders.
O	These students attend advanced placement classes. The content of these courses contains subject area content to an extent but in much greater concentration.

Question 7a asked the teachers whether the students in the sample attended the special classes described in Question 7. The results are given in Table 6.9.

Table 6.9
Question 7a, Teacher Questionnaire

Do the students named above attend these classes?

3	8	12	
75.0	65.2	63.2	Yes
16.7	30.4	31.6	No
8.3	4.3	5.2	Not Available
	n=23	n=18	

If non-content classes were available in their school (Table 6.8), about two-thirds of the students attended them.

Question 8 departed from descriptions of the context and content of the specific gifted program and asked the teachers to describe the philosophy of the gifted education program within the school. The comments are given verbatim in Table 6.10.

Table 6.10
Question 8, Teacher Questionnaire

Please briefly describe the gifted program philosophy in this school:

The philosophy of the gifted education program within each sampled school is described below. The descriptions are grouped according to grade level.

■ Grade 3

W The program will provide the students with appropriate learning experiences which allow for the acquisition of subject content that is broad-based, multi-disciplinary and focuses on the development of advanced thinking skills.

O We believe that the AG program should expand the basic curriculum through an accelerated and enriched process which emphasizes the implementation of higher level thinking skills. Students should be provided with the opportunity to explore areas of interest through research, and problem solving should be emphasized.

Table 6.10 (cont.)
Question 8, Teacher Questionnaire

E	As stated in the self study in 1986, the staff endeavors to teach individual students based on their level of social, emotional, and academic skills. They strive to maintain students' strengths and improve their weaknesses. Each child has a constructive place in society and a responsibility to improve that society.
S	The academically gifted program is designed to enrich the educational experiences of the student beyond the regular classroom by fostering creativity, developing thinking skills, and seeking unique solutions to problems.
R	Enrichment and accelerated instructions are provided for independent work and individualized learning.
A	Academically Gifted Select Courses: A student's particular strengths, gifts, and talents determine what courses he/she will take of the AG Selected Courses, for this is the highly individualized part of the curriculum. Here students who have outstanding strengths and capabilities in a particular area, or areas, apply their knowledge in new ways and pursue ideas in greater depth and breadth. These areas include general intellectual ability, aptitude in specific academic subjects, creative thinking, and visual and performing arts. (Taken from the Student Handbook for 1988-1989).
H	Our program is designed so that every identified child has the right to discover and to develop his maximum potential. We try to give students exposure to a wide variety of topics as well as an opportunity to explore in-depth individual group interests. The students are given training and experience in the higher level thought process. It is also an opportunity to interact with their intellectual peers.
F	To expand a student's knowledge beyond the general curriculum while developing critical and creative thinking and problem-solving techniques. To enhance each child's self-concept and awareness of his talents and abilities. To become more aware of the interdisciplinary relationship of knowledge.
I	To provide a differentiated and personalized curriculum for each student who qualifies for placement using the state criteria. To advance intellectual, emotional, social, and cultural development for each student. To engage the student in stimulating and enriching activities. To provide an opportunity to develop his or her outstanding abilities and to cultivate his or her potential contribution to society.
L	Our school recognizes the needs, interests, and abilities of all children. The educational opportunities should be broad enough to meet the needs, desires, interests, capacities and aspirations of every student.
B	Every gifted child is an individual and should be treated with respect and dignity. Each gifted child has the right to an educational program that is designed to meet his/her unique needs and to provide him/her with an appropriate opportunity for growth in the cognitive, affective, and social domains. Every gifted child has a right to the opportunity, experiences that will allow him/her to adjust to life and to become an independent and contributing member of society.
Q	To provide a challenge for gifted students beyond what they receive in the regular classroom. To encourage students to reach their potential.

Table 6.10 (cont.)
Question 8, Teacher Questionnaire

■ Grade 8

M	(1) To insure that gifted students master the basic skills required by the curriculum. (2) To extend students' knowledge, especially in areas of critical thinking and problem-solving.
Q	The program tries to encourage students to reach their creative and intellectual potentials, and to provide a challenge beyond regular classroom activities.
R	The program should offer each child the opportunity and materials to extend his learning to the fullest extent. Emphasis is placed also on social skills.
E-1	Students are challenged on a higher level of learning, allowing them to achieve a more intense background in education amid students of equal learning abilities.
T	The intent of the gifted program is to provide an enriched extension of the regular curriculum that will enable the gifted student to compete with others who are equally talented and provide learning experiences that will nurture originality, fluency, and flexibility in students in the area of Language Arts in grades 7 through 9.
I-2	Our gifted program allows for these students to move faster without being held back. We are developing ways to allow them to expand even further. Due to numbers we are limited in some areas. Our philosophy is to meet the needs of our students to the best of our abilities.
F-2	The structured AG program ends at sixth grade level. In 7th and 8th grade the students are in regular classes with little or no extension of advanced work. I have seen no written program philosophy for this school.
D-2	The gifted program seeks to accelerate the "regular" grade level curriculum. We can simply move faster. Since we can, we can cover more material and go into more detail than we might otherwise have time to do.
S	To provide an education that is designed to meet the AG child's needs. This is done through instruction, field trips, supplementary materials, outside resources (speakers, etc.).
C-2	Academically gifted students can progress at an accelerated pace and therefore should be placed in advanced classes.
I-1	The philosophy is to expand thinking skills, research skills and in general to broaden the student. Also to help develop creativity.
N	We believe that a program for the gifted should be differentiated from the regular curriculum. We believe that the student should use problem-solving techniques, develop communication and organizational skills, work toward his creative potential and use higher thought processes. We believe that the end result of the program for the gifted student should be a balance between the cognitive and affective domains.
W	We provide a program of enriched reading curriculum and experiences to develop problem-solving skills and higher thinking processes.

Table 6.10 (cont.)
Question 8, Teacher Questionnaire

L-2	We believe the label "exceptional children" applies to gifted students as well as learning disabled, etc. Thus, we wish to provide "special" education for them, with materials, teaching strategies, and pacing appropriate for them. We also support the contact with gifted peers which our program includes.
F-1	Students are tested and placed in AG classes accordingly. "Pure" AG classes are able to handle "deep" thinking, interpretation, critical analysis. They grasp ideas more quickly, read faster, understand concepts readily and, thereby, move along in the curriculum, allowing time for "extras" in the form of supplementary materials, field trips, or additional units of study.
D-1	I am aware of no such philosophy.
J-2	This program is in its infancy. We only have six students involved. We try to expand their learning and hope our computer program will do this.
B-1	Every exceptional student is an individual and should be treated with respect and dignity. Every exceptional student is capable of learning. Each has the right to an opportunity for an educational program that is designed to meet his/her unique needs and to provide him/her with an appropriate opportunity for growth in the cognitive, affective, and social domains. Every exceptional student has a right to this opportunity—an experience that will allow him/her to adjust to life and to become an independent and contributing member of society.
B-2	Exceptional children have special needs which require educational services different from and/or supplemental to the services provided in regular classes. Every exceptional child is an individual to be treated with respect and dignity. Each has the right to an education designed to meet his needs and which offers the appropriate opportunity for growth in the cognitive, affective and social domains.
P	The county and school program is predicated on the philosophy that differentiated opportunities for learning should be provided for the AG students, commensurate with their abilities, and should be constructed around a variety of lessons and activities designed to challenge these students to become active, lifelong, independent learners.
J-1	That each academically gifted student excels as far as his/her capability allows. Even though barriers may exist within the instructional curriculum, we have the caliber of teachers and students to overcome the barriers. Therefore, we do so.
E-2	We believe that an academically gifted program should provide enrichment that emphasizes the development of specific thinking skills and creative processes. Extending the curriculum in depth, breadth, and scope is basic to a program for the gifted student.
A-2	Students are to complete and master concepts listed on the GED and curriculum guides. Students read several novels for analysis and synthesis.
K-2	Our purpose is the development of an enabling learning environment so that each student can be educated at his/her level of need and ability and be motivated to achieve throughout his/her life-span to actualize his/her natural and socio-cultural gifts.
K-1	The purpose of the gifted program is to provide students with the necessary skills for daily living and educational growth while enriching their studies with higher levels of cognitive/affective skills in the areas of mathematics and English.

Table 6.10 (cont.)
Question 8, Teacher Questionnaire

H-2	This is the first year this school has had a full-time AG teacher. Last year, my first in this system, I served this school (as school-base chairperson) and three elem. schools for 80 plus students. Teachers had changed every year or so, and students attended AG when and if they wanted to. Teachers kept them in regular class if they chose, without accountability to the AG teacher. I feel there was little respect for the need for the program either by staff or administrators. At present, I have administrative (at school level) support, perhaps 50% of the teachers' support, and most (I have had no negative response) of the parents' support. Enthusiasm among AG students is generally high. For some, the program is a burden because they are held accountable for everything they "miss" when they leave the regular class to come to AG. Consequently, I usually require little outside work for my students. (Few, if any, adjustments are made by regular teachers.) We only meet two times weekly on a regular basis because of the difficulty in scheduling. In addition, some (most) students participate in special interest courses so they have additional time. Personally, I am very concerned with the needs of these students. We have a lot of gifted underachievers who need extra motivation. Many of our rural youngsters receive little enrichment elsewhere. For some, the only contact they have with students of similar ability and interest is in this class. This program is a growing one. I hope that credibility and support come with time.
U	Since students receive no direct AG services at this school, it is assumed that the regular classroom teacher is able to meet their needs. Personally, I seriously doubt that anything special is being done to address the needs of these students.
X	In any school there are those students who are advanced from the normal child. It is necessary to provide an opportunity for these students to grow and yet be an integral part of the total school program. These students should daily be challenged in vocabulary, reading, literature, and language skills. At the same time, they should be given latitude to express their own ideas and creative thoughts.
G-2	Differentiated academic pull-out program designed to cover subject math not addressed in regular school program.
H-1	Our program is designed so that every AG child has the right to discover and to develop to his maximum potential. The curriculum is designed to give the students exposure to a wide variety of topics as well as an opportunity to explore in-depth individual and group interests. Through training and experiences in higher-level thought processes, the students will produce on levels commensurate with their abilities. They interact with their intellectual peers effectively, facilitating their ability to communicate with and relate to all facets of society.
G-1	Academically gifted students are those students who demonstrate, according to established criteria, outstanding intellectual aptitude and academic ability. Because we recognize that the academically gifted students require a higher level of intellectual stimulation, differentiated educational services must be provided to enable these students to reach their fullest potential. To this end, a program is designed: (1) to foster the ability to reason and problem-solve; (2) to establish patterns of independent, life-long learning; (3) to recognize self-worth and the worth of others; and (4) to develop

Table 6.10 (cont.)
Question 8, Teacher Questionnaire

productive behavior. To achieve these goals, the school system commits itself to a modification of the depth and breadth of the regular curriculum through a variety of activities involving inquiry and discovery.

A-1 We offer challenging activities and strategies in math and language arts for our gifted students. Extra challenges are available through an elective program.

O We recognize and respect the needs of gifted students. As we help them gain in basic skills, we provide opportunities for the students' enrichment and for them to develop their creative abilities.

C-1 There is no gifted program philosophy at this school. There is no gifted curriculum. The philosophy, curriculum, and content of the program vary from teacher to teacher and grade to grade. The AG program at this school and within this county is not a high priority with administration at school or county level.

L-1 Our philosophy reflects the middle school philosophy of heterogenous grouping. The teacher knows his/her gifted students and tries to address their needs with extensions of classwork such as special projects, activities requiring higher-level thinking skills, and problem-solving techniques.

■ Grade 12

A-1 Every student has the right to perform at his highest ability level. We ensure this through homogeneous grouping.

K-1 We allow those students to select their courses from our offerings. No one is forced to follow a set program.

C-1 To challenge the gifted student in all areas; to give him/her the opportunity for advanced study in his/her area of interest; to promote creative and critical thinking; to provide enrichment in many areas; and to provide the student an opportunity to earn college credit through the Advanced Placement Program.

S We offer challenges in higher-level thinking skills by grouping students in college preparatory or Advance Placement classes.

V-1 To serve these students identified AG with an enhanced curriculum stressing both variety of material offered and intellectually demanding materials.

V-2 This school aims to provide gifted students with appropriate courses in many subject areas and to give those students the opportunity to achieve some college credit if they so desire. The school also strives to give gifted students the opportunity to lead and to enjoy fellowship with other students.

B-2 It is the goal of this school to provide the best education possible for the AG students. The teachers use a variety of strategies and techniques to stimulate and challenge their AG students. Teachers use enrichment materials to differentiate their curriculum. The principal believes in gifted education and groups the AG students properly so that their educational experience will be the most beneficial to the students as well as the teachers. I work well with the staff involved with the AG students.

Table 6.10 (cont.)
Question 8, Teacher Questionnaire

H-1	This school is committed to providing a special English class for those who demonstrate outstanding intellectual aptitude and specific verbal ability. In serving those students, we are giving them opportunities to maximize potential.
L-1	Every student should be encouraged to perform to his own ability level—opportunities are provided for brighter students to take advanced courses so as to work to their maximum potential.
W	The gifted student is considered unique. We attempt to teach him the basics at a faster pace and at the same time provide him an opportunity to explore areas not normally taught. Our courses are not more of the same, but an opportunity to explore and do different things.
H-2	To meet the special educational needs of the AG students to allow them to reach their full potential.
R	Students receive instruction in AG/AP class in English. In math, AG students needs are met through the enrichment of the CPC for Calculus. A consultant is available to answer questions, make appropriate contacts with parents, order materials, and keep track of students' progress.
G-1	Although open to all students, the AP English class is geared to high achieving students. They are expected to read in depth and share in activities surrounding the material. Emphasis is on reading, speaking and writing, with the focus on the significance of and/or themes of the works and writers. Written proficiency is a major goal so that college credit may be earned.
G-2	Identify them—encourage them to take Honors level classes and that's it!
R	At this school gifted students are placed in classes with other highly motivated students who are achievement centered. We do try to stimulate their interest and pique their enthusiasm.
F-1	To provide opportunities for learning and enrichment to help the student attain his/her fullest potential. To promote cultural growth and good citizenship as well as academic development.
C-2	The same philosophy as applies in the county. Identified students are encouraged to take Honors Classes.
F-2	A program designed for students who need academic challenge beyond that found in advanced courses. Emphasis is on content, higher-level thinking skills, and the individual's critical and creative thinking ability.
L-1	The gifted program has as its objective to produce open-minded people who are critical thinkers. We wish to expose our students to world literature, its writers, and its philosophies. We basically feel that a gifted program should allow discussion of any and all topics; any censorship is an injustice to this bright, creative group. In our gifted program, creativity is a sacrament.
O	To provide the best possible education to meet the student's ability level.
A-2	The English course of study states that the rationale for academically gifted students (9-12) is that students should have the benefits of a program which inspires continued development of communication skills and of higher-level thinking skills. The study of

Table 6.10 (cont.)
Question 8, Teacher Questionnaire

	literature should emphasize the development of complex language and thought processes and engender a sensitivity to human experiences, conflicts and values.
B-1	Academically gifted students have unique needs that require educational services that are different from and/or supplemental to those services provided in the regular educational program. Every AG student is an individual who should be treated with respect and dignity. They have the right to an educational program that is designed to meet their unique needs and to provide them with an appropriate opportunity for growth in the cognitive, affective and social domains.
J-2	Through testing, standardized test scores, and SAT scores by students taking this test, students are identified early in their high school career. Individual counseling, specific in structure and within a classroom setting, identifies and challenges these students.

These important aspects of a gifted education program were taken from the teachers' descriptions of the philosophy of the gifted programs in their schools:

- the opportunity to discover and develop to one's maximum potential
- the opportunity to become aware of the interdisicplinary relationship of knowledge
- the opportunity to develop creativity
- the opportunity to progress through the curriculum at a faster pace
- the opportunity to contribute to society
- the opportunity to interact with intellectual peers

The above opportunities generally do not all occur within the same program. For example, the opportunity to progress through the curriculum at a faster pace than other students may not mesh well with the opportunity to develop creativity.

Questions 9, 10, 11, and 12 deviate from descriptions of the gifted education program within the schools and deal specifically with the teachers—their responsibilities, years of teaching, areas of certification, and special AG training. The results from Question 9 are given in Table 6.11.

Table 6.11
Question 9, Teacher Questionnaire

Are you assigned exclusively to this school as an AG teacher? (If not, please indicate how your services are allocated.)

3	8	12	
23.1	31.4	4.3	Yes
61.5	25.7	4.3	No, teach at more than 1 school
15.4	42.9	91.4	No, teach AG and regular classes

The majority of teachers at Grade 3 (76.9%), Grade 8 (68.6%), and Grade 12 (95.7%) are not assigned as an AG teacher to one specific school. The teachers are either assigned to more than one school as an AG teacher (61.5% in Grade 3) or assigned to teach AG classes in addition to regular classes or other responsibilities (42.9% in Grade 8 and 91.4% in Grade 12).

Table 6.12 contains, by grade level, the teachers' descriptions of how their services are divided between multiple schools or between AG class responsibilities and other teaching responsibilities.

Table 6.12
Question 9—Comments, Teacher Questionnaire

■ **Grade 3**

Assigned as an AG teacher at more than one school

W No, I am assigned to two schools in the system with the time spent at each school being determined by the AG student population.

E No. School 1—1-1/2 days (Grade 2-6, 21 students); School 2—1-1/2 days (Grade 2-6,21 students); School 3—1/2 day (Grade 5-6,19 students); and School 4—1 day (Grade 2-4, 20 students).

S I travel to 3 elementary schools daily.

H No, I work at two schools this year and have been assigned to as many as four, depending on the number of students to be served. This year I spend 2-1/2 days at Bangert and 2-1/2 days at my other school.

Table 6.12 (cont.)
Question 9—Comments, Teacher Questionnaire

F I spend 1 day at this school. Four days are spent at another school in the county.
I No—I am assigned to six schools in K-5.
B No—School 1 2-1/2 days per week. School 2 2-1/2 days per week.
Q No, I am itinerant, serving 4 schools, 2 middle schools, and 2 elementary schools.

Assigned to teach AG classes in addition to other responsibilities

R No. AG students are in the regular classroom.
L Yes, full time resource teacher. A.M.: L.D. BEH students; P.M.: Gifted.

■ Grade 8

Assigned as an AG teacher at more than one school

Q No. I have four schools, each with a small gifted population. The schools in the county are split between 3 teachers; most assignments are made geographically— I deal mostly with schools on the western end.
I-1 No, I spend two and a half days a week here and the other two and a half at another middle school.
B-1 A half day at School 1 and a half day at School 2.
B-2 No, I am here half of a day from 8-11 a.m.; then I travel to another school for identical services.
P No. I serve 5 schools, teaching classes in grades 4-8, providing enrichment material as a consultant in grades K-3, and as consultant only, in grades 9-12.
U No! In fact, my time is completely scheduled between two other schools. I have to "borrow" time from them to come here to do necessary record-keeping, etc.
X My day and duties are divided between this school and another school.
G-2 No. I am assigned to five schools.
G-1 No, I serve 148 students a week, I visit 4 schools in 1 week.

Assigned to teach AG classes in addition to other responsibilities

M 3 classes AG; 2 classes LD.
R I teach seventh and eighth-grade AG Science. I also teach regular education. I lack 2 courses from being state AG certified.
E-1 No! I teach 7th-grade AG students in Social Studies and Language Arts; I also teach 8th-grade Language Arts. Additionally, I have one basic 8th-grade English.
C-2 I am a former English teacher and choral music teacher currently assigned to choral music only. I am the AG coordinator at our school responsible for paperwork. I work with the academic teachers for GEP's.
L-2 No—I am paid with state funds as a "regular classroom teacher."

Table 6.12 (cont.)
Question 9—Comments, Teacher Questionnaire

F-1 No—as a teacher of English with 1 or 2 AG English classes, 1 or 2 advanced classes, etc.

D-1 I teach 16 students certified as AG for our block (Language Arts/Social Studies), approximately one hour and twenty-eight minutes.

J-2 No, classroom teacher.

J-1 No—School-based committee chairman.

E-2 I am assigned to this school as a regular classroom teacher. I teach ninth-grade English and eighth-grade Language Arts.

A-2 No, I'm not. I am an AG certified teacher who teaches a group of AG students along with Honor Students.

C-1 No, I teach AG classes one half of the day.

L-1 No. I'm funded by regular state funds. My classes include an exploratory course in mythology; 1 accelerated, 2 average, and 2 low level Language Arts classes.

■ Grade 12

Assigned as an AG teacher at more than one school

B-2 No. I work as the AG consultant for this school as well as another school. I am responsible for all the testing and paperwork as well as consultation services.

Assigned as an AG teacher in addition to other responsibilities

A-1 I am not an AG teacher. I have only an A certification and 14 years of experience. I am assigned to teach AP English by the principal.

K-1 Yes, but I teach only AP Calculus one period per day.

C-1 No. I am a certified AG teacher with an MEd in Gifted Education. I am a regular teacher who teaches honor classes.

S Yes, but from regular classroom teacher allotment.

V-1 No. I serve 3 gifted classes per day. The remainder is spent as a classroom teacher and I.S.S. coordinator.

V-2 My day is 1/2 AG, 1/2 regular English.

L-2 No. I'm a state-funded English teacher who happens to teach Honors/AP English IV.

W This school is allotted one GT position. I am 1/2 of this position. Another person teaches 2 of the GT classes.

H-2 I teach four AG classes daily. Two Junior classes, two Senior classes. I also teach one college prep senior English class.

G-1 No. I am a regular teacher of English who has taught grades 9-12 from basic (remedial) to honors/advanced placement.

G-2 No, I am assigned as a full-time Social Studies teacher.

R No, I am certified in AG but our classes are labeled Advanced Placement to serve other qualified, interested students.

Table 6.12 (cont.)
Question 9—Comments, Teacher Questionnaire

F-1	Yes; however, my teaching assignment includes classes of average as well as gifted students.
C-2	No—I teach one Advanced class of English and Humanities, rest of day regular English.
F-2	No. Advanced and Advanced Placement.
L-1	We have an Honors program (AG and high achievers). I teach 9th and 11th-grade Honors English.
O	We have teachers in areas of English, Math and Science and Social Studies who are designated to teach these classes. No teacher has exclusive gifted/talented classes.
A-2	I have taught Advanced Placement English 12. In addition to other levels of English 12.
B-1	I teach all of the 10th-grade AG students. One of my classes is exclusively AG and the other AG students are clustered in 2 of my other academic classes with top leveled students.
J-2	No. Being a teacher of advanced courses of the science curriculum of this school allows exposure to AG students.

The results from Question 10 are presented in Table 6.13.

Table 6.13
Question 10, Teacher Questionnaire

How many years have you taught in public schools?

	0-5	6-10	11-15	16-20	21-25	26+	Mean	SD
3	0.0	22.1	38.5	38.5			13.15	4.00
8	14.7	20.6	23.5	20.6	11.8	8.8	14.10	8.11
12	0.0	0.0	39.1	8.7	34.8	17.4	19.78	6.48

From the above data, it can be seen that Grade 12 teachers have taught considerably longer than Grade 3 or 8 teachers (mean number of years of teaching are 13.15 for Grade 3, 14.10 for Grade 8, and 19.78 for Grade 12). This suggests either that the more experienced teachers are assigned to the advanced grades, or the teaching population is aging disproportionately.

Question 11 (Table 6.14) indicates the areas of certification for these teachers.

Table 6.14
Question 11, Teacher Questionnaire

What are your areas of certification?

3	8	12	
53.8	11.4	0.0	Elementary Ed/Early Childhood/Primary
30.8	2.9	0.0	Intermediate/Middle Grades
46.2	80.0	69.6	Language Arts/English/Reading
15.4	8.6	13.0	Mathematics
15.4	11.4	13.0	Science
15.4	34.3	34.8	Social Studies
0.0	0.0	4.3	Foreign Languages
7.7	5.7	0.0	Music
0.0	0.0	4.3	Drama
0.0	0.0	4.3	Vocational
0.0	0.0	4.3	Religion
53.8	71.4	43.5	Exceptional Children—AG, Special Ed
7.7	8.6	0.0	Mentor
0.0	0.0	4.3	Guidance
0.0	0.0	4.3	Administrative/Supervision

The Grade 3 AG teachers sampled have their basic certification in Elementary Education (53.8%), Language Arts (46.2%), and Intermediate/Middle Grades (30.8%). The Grade 8 AG teachers sampled are mainly certified in Language Arts (80.0%) and Social Studies (34.3%). The Grade 12 AG teachers sampled are mainly certified in English (69.6%) and Social Studies (34.8%). These results are related to the results of Question 3 (description of the gifted program), where a majority of the gifted programs are within the context of English and/or Social Studies classes. Science, Mathematics, and Foreign Languages have little representation.

The greatest proportion of teachers who have AG certification are in Grade 8 (71.4%) and the smallest proportion is in Grade 12 (43.5%). The small proportion in Grade 12 may be related to the results of Questions 1 and 2, where it was observed that most of the gifted students in Grade 12 were in programs that consisted of cluster grouping with other high-achieving students and/or special accelerated classes—not homogeneously-grouped ("pure") AG classes.

The following colleges and universities have state-approved teacher programs in the academically gifted special education area (NCDPI Division of Teacher Education). The program levels in years are given by each name.

- Catawba College (4)
- Saint Andrews Presbyterian College (4)
- Appalachian State University (5)
- East Carolina University (4, 5)
- University of North Carolina–Chapel Hill (4, 5)
- University of North Carolina–Charlotte (5, 6)
- Western Carolina University (5)

Certification in the academically gifted area of teaching is in the form of an endorsement, which means that, to be certified in the academically gifted area, the teacher must have an existing certification in another teaching-speciality area (academic content area or teaching field). The endorsement requires 12 academic hours of approved instruction. This may occur in the university setting or in workshops. Comments by teachers indicate that one, the other, or both may be the source of their certification endorsement (see Question 12).

Very few of the teachers identified in this sample have earlier certification in Mathematics or Science. It is likely that such is the case for all AG-certified teachers. If this is so, we can expect the North Carolina gifted education program—that is, the AG program funded by special education funds—to be humanities oriented. Data from the sample bear this out (Table 6.3). In general, the AG-funded program is the teacher.

Question 12 on the survey asked the teachers if they have attended workshops, special classes, or courses that dealt specifically with the teaching of academically gifted students. The results are given in Table 6.15.

Table 6.15
Question 12, Teacher Questionnaire

Have you had special training in the instruction of academically gifted students? (If yes, please describe briefly.)

3	8	12	
0.0	14.3	17.4	No
7.7	11.4	30.4	Yes—Workshops, conferences, etc.
46.2	17.1	4.3	Yes—Graduate level courses in AG
46.2	57.1	47.8	Yes—Certification in AG

For all grades, the majority of teachers have had some special training in the instruction of gifted students (100.0% in Grade 3, 85.7% in Grade 8, and 82.6% in Grade 12). The proportion of teachers who have had no special training increased from Grade 3 (0.0%) to Grade 12 (17.4%). Less than half of the Grade 3 (46.2%) and Grade 12 (47.8%) teachers surveyed have an AG endorsement as part of their teaching certification, and this is consistent with the results of Question 11 concerning areas of certification.

So far the Teacher Questionnaire has dealt with the context and content, the funding, and the teachers of the gifted program within a specific school. Questions 13 and 14 examined the strengths and weaknesses of the gifted education programs sampled (Tables 6.16 and 6.17).

The categories listed in Tables 6.16 and 6.17 are defined as follows:

Curriculum:	Responses that related to curriculum content
Students:	Responses that related to how students were selected or grouped
Time:	Responses that related to how much time students were to spend studying
Environment:	Responses that related to facilities, equipment, and non-curricular materials
Management:	Responses that related to how curriculum, students, time, and the environment were managed to achieve goals and objectives
Outcomes:	Responses that indicated what outcomes were expected

Table 6.16
Question 13, Teacher Questionnaire

What do you believe to be the strong points of the existing education program for gifted students?

3	8	12	
76.9	41.9	39.1	Curriculum/Program
23.1	32.3	21.7	Students (grouping)
15.4	0.0	0.0	Time
7.7	0.0	0.0	Physical Environment
30.8	48.4	47.8	Management
7.7	3.2	8.7	Outcomes

n=31

Teachers at all grade levels stated that the curriculum (mentioned by 76.9% in Grade 3, 41.9% in Grade 8, and 39.1% in Grade 12) and the management of the program (mentioned by 30.8% in Grade 3, 48.4% in Grade 8, and 47.8% in Grade 12) were the strongest aspects of the gifted education program within their school.

Table 6.17
Question 14, Teacher Questionnaire

What do you see as the weak points of the existing education program for gifted students?

3	8	12	
7.7	33.3	30.4	Curriculum/Program
23.1	21.2	39.1	Students (grouping)
30.8	18.2	8.7	Time
7.7	3.0	4.3	Physical Environment
69.2	54.5	39.1	Management
0.0	0.0	0.0	Outcomes

The teachers stated that management of the program was the weakest point of the gifted education program at their school (mentioned by 69.2% of Grade 3 teachers, 54.5% of Grade 8 teachers, and 39.1% of Grade 12 teachers). They felt that the teachers and staff who are currently involved with the gifted program are excellent, but management of the program could be improved by employing AG-certified teachers in other content areas and by allocating additional time for the teachers to work with the gifted students.

At Grade 3, another weak aspect of the program was the small amount of time AG students received special instruction (mentioned by 30.8% of the teachers). At Grade 8 another weak point of the program was the limited content of the program—generally Language Arts and Social Studies are the only content areas covered. At Grade 12 another weak point of the program was the lack of homogeneously grouped classes (mentioned by 39.1% of the teachers).

While Questions 13 and 14 asked about the strengths and weaknesses of each gifted education program, Question 15 (Table 6.17) asked the teachers to decide how additional money could best be spent to alleviate some of the problems of the program within their school.

Table 6.17
Question 15, Teacher Questionnaire

Were money available, how would you spend it to improve the education program for gifted students?

Priority	Priority 1			Priority 2			Priority 3		
	3	8	12	3	8	12	3	8	12
Curriculum—Further development:									
• within the school	7.7	17.6	26.1	15.4	6.1	13.0		23.1	26.7
• outside resources	7.7	5.9		15.4	30.3	26.1	45.5	23.1	33.3
Management									
• Funding for more AG Teachers and Staff	53.8	32.4	43.4	7.7	27.3	26.1		15.4	6.7
• Program Awareness/ Development									
Teachers		8.8		7.7			18.2	7.7	6.7
Administrators and Counselors					3.0				
Parents		2.9			6.1				
• Support Services	7.7	2.9	4.3	7.7					13.3
Environment									
• Materials	7.7	17.6	26.1	23.1	15.2	26.1	9.1	11.5	
• Equipment	15.4	11.8		23.1	9.1	8.7	18.2	15.4	13.3
Miscellaneous					3.0		9.1	3.8	

The suggestions that teachers made concerning where additional money could be spent to improve the AG Program are as follows:

Curriculum:

- Develop and expand the program to other grades, subjects, and/or the whole school; offer a greater variety of programs (i.e., accelerated, Honors, and AP courses)

Management:

- Funding for more AG teachers and staff—more AG-certified teachers so that more diverse courses could be offered, lower student/teacher ratio, self-contained AG classrooms; offer individualized instruction
- Program awareness/development—in-service training and workshops to help with the teaching of AG students within the regular classroom; share concerns with parents
- Support services—clerical and guidance counselors

Environment:

- Materials: books, sets of novels, software, encyclopedias, supplemental texts
- Equipment: computers, video cameras, calculators, science instruments, TV, VCR

For all three grade levels, increased funding for AG teachers was the highest priority (listed by 53.8% at Grade 3, 32.4% at Grade 8, and 43.4% at Grade 12).

At Grade 3, materials and equipment (listed by 23.1% each) made up the second most important priority for increased funding and the expansion of the curriculum with outside resources (i.e., summer classes, camps, mentorships, and field trips) was third (listed by 45.5%).

At Grade 8, the further development of the curriculum with outside resources (i.e., field trips and guest speakers) was the second most important priority for increased funding (listed by 30.3%). The further development of the curriculum within the school (i.e., expansion of the program to all academic areas and more flexibility in the strategy employed in the instruction of AG students) and the further development of the curriculum with outside resources were the third priorities (listed by 23.1% each).

At Grade 12, the funding of additional AG teachers and staff, the further development of the curriculum with outside resources, and materials were the second most important priorities for increased funding (listed by 26.1% each). The further development of the curriculum with outside resources was also the third most important priority for increased spending (listed by 33.3%).

The last question on the Teacher Questionnaire asked the teachers to provide any additional suggestions they had concerning the gifted education program. The comments are given verbatim in Table 6.19.

Table 6.19
Question 16, Teacher Questionnaire

OTHER SUGGESTIONS:

Below are the additional suggestions made by the teachers and grouped by grade level.

Grade 3

O Since many AG students are capable, and should be allowed to take math courses early, guidelines need to be clarified and/or adjusted in regards to high school graduation math requirements. If AG students take Algebra in 7th grade, they complete the four basic high school math requirements by the 10th grade. Therefore, many students don't want to start the higher level courses because they won't get graduation credits for two of the courses they have already completed.

E Students who are doing well could be evaluated less as long as they maintain good grades. Coordinating activities with classroom activities would be helpful.

A There is a crying need for a change in the paperwork required in the AG identification process. The valuable time of teachers, trained to teach these children, is spent pushing papers instead of planning lessons to motivate gifted children.

H I'm often told when I do something "great" with my children that it would be nice if all children could experience this activity. Perhaps another way of serving gifted students should be examined without labeling and "pulling them out" of the regular classroom. Maybe teachers of the gifted should be enrichment teachers who go into the classroom and work with those who show ability in the particular area of enrichment introduced that day. A lot of money is spent on testing, and I'm wondering if we're testing or tapping the right students. Maybe we should spend some money on testing for science, social students, or the arts scholars.

F This school is located in a rather culturally deprived area. One of my jobs at this school, which is not as necessary at my other school, is to help the children realize they have the potential (if they work) to do anything they choose and scholarships, etc., are available for them in the future to help them obtain their dreams.

I I teach in an old trailer at the present time. I have no equipment. I share with the music teacher. Most of the chairs are broken and the tables are not the correct size for my students. We need computers and software. We also need an up-dated classroom with modern equipment.

Q Hire assistants to deal with paperwork, freeing teacher for more interaction with students. Hire psychologists to do testing of students.

Grade 8

M Encourage school systems to actively promote attendance at conferences and workshops by teachers and administrators to insure that enthusiasm remains high and current strategies are learned and utilized.

Table 6.19 (cont.)
Question 16, Teacher Questionnaire

Q	This may not be the right place for this suggestion, but much of my time is eaten up with paperwork duties. (This survey being an exception, of course!) I would like to be freed up to work with the students more often. We need to have the money for people to help with testing, and perhaps assistants who could deal with some of the "lesser" paperwork duties.
R	It would be nice to see inter-county meetings between AG students and teachers across the state.
I-2	Have more AG schools throughout the state where "multi-aging" could take place. (Smaller systems are limited.) Set up more in-service for teachers to further their techniques. Minimize the paper work—standardize the forms—to be more consistent.
F-2	Even though there are only about 20 identified AG students in this school, I think their needs could be met in a more creative way. For example we could set up an ungraded (i.e., put 7th and 8th graders together) and integrated program for these students in the content areas (Math, Science, Health, Social Studies, and Language Arts) and mainstream them into the noncontent areas. This could be done easily with two teachers and scheduling by team teaching or a modified open classroom approach.
C-2	The AG program ought to be more than simply offering accelerated classes; however, more teachers and special courses would have to be offered. Therefore, more funding is necessary.
I-1	I think we need to look at another approach at the middle school level. Equipment: science equipment, research materials, many improvements in our physical plant.
N	Teacher education workshops for regular-ed teachers to better understand the exceptions (not just gifted).
L-2	The new educational catchword in this county is "cooperative learning." This translates as follows: (1) End homogeneous grouping. (2) Mainstream to the "max" (except for Reading and Math). (3) Use brighter students as role models, tutors, etc. in the new "mix" of students—the great Classroom Melting Pot (IQ's ranging from 70 to 140). (4) Let simmer, teach to the middle, and the heck with the lower and higher ends of the continuum.
F-1	Time in the day for combined areas of study, team teaching (History-English; Science-Math)—two teachers switch back-to-back classes or combine the classes for a two-hour span.
D-1	I feel that truly gifted children, of whom there are very few, deserve a specific program designed to meet their needs. Most of the children currently certified AG do not need such a program, nor do they need to be segregated from their peers.
B-2	Make class size—maximum of 15. I have worked over the last 3 years with class sizes of 18, 24, 22, 3—too small (minimum of 8?), 19 and 13. I have "experienced the benefits" of a workable program with the classes of 13 and most of the time with 18.
P	Teachers in the regular education program, who are assigned AG and top level students, should be chosen because they are outstanding teachers with a solid education and a broad background of knowledge and expertise in their field. (This should be what every student should be exposed to in schools!)

Table 6.19 (cont.)
Question 16, Teacher Questionnaire

E-2	I realize the state is engaged in a review of the identification procedures, and I think this is wise. I am concerned that some students who are high achievers but somehow fall short of meeting the criteria for placement are excluded from the program.
K-2	Separate funding for gifted programs from other exceptionalities. A county this size needs a fully-funded supervisor for gifted programs. Increase funding to enable schools to offer classes specifically for gifted students.
H-2	If there is a way, the amount of official paperwork should be reduced. If not, hire extra help for this area.
U	As both an AG teacher and a parent, I am very frustrated with the lack of service provided for these students. They are tomorrow's leaders; they deserve an opportunity to be challenged and to excel. The state allocation for gifted education funds should be increased. It is an investment in everyone's future that will yield a high return. No other segment of the student population will enhance future society as will the AG students. How can we afford to waste this natural resource!? No one has a magic wand. Realizing that funding is limited, schools could still improve the quality of gifted education if administrators considered it a priority. The following suggestions are realistic goals that could be implemented immediately and effectively: (1) At the junior high level (7-9), there should be advanced or honors classes available each year for all four required subject areas: Math, Science, Language Arts, and Social Studies. (2) In addition, AG students should have a series of electives available to them in areas not covered in regular classrooms. The elective block could accommodate four subjects—a different one for each nine-week grading period. This could be an excellent way to broaden a student's horizons and capitalize on his interests. Examples: composition, Latin, future problem solving, astronomy, logic, study of great books, computer programming, anthropology, etc. (3) AG students should have regular group sessions with guidance counselors to address such common needs as long-range planning of junior and senior high courses, career opportunities, assistance with interpersonal relationships, etc. (4) Courses in gifted education should be included in the requirements for initial certification of all teachers. Administrators, principals, and guidance counselors need additional courses. Thank you for allowing me this opportunity to share some suggestions for improving the AG program. I would be very interested in seeing a summary of the results obtained from this state-wide survey.
G-2	Replace the coordinator with a person knowledgeable and trained in gifted education and a person who has a child-based approach to education.
H-1	Flexible funding to allow low income children to better participate in AG activities (trips, magazine subscriptions, other material).
C-1	More attention needs to be given to other areas of exceptionality, i.e., science, social studies, art, performing arts, etc. At present, students are identified in only Math and/or Language Arts. There are many students who are indeed gifted but not serviced because they don't qualify in Math or Language Arts.

Table 6.19 (cont.)
Question 16, Teacher Questionnaire

■ Grade 12

A-1 Sharing of ideas and techniques. I am not interested in hearing so-called authorities lecture to us. We need information—sharing with our peers.

C-1 Implementing former Secretary Bennett's recommendation for English course sequence.

V-1 Sometimes I feel as though if you plan to earn above the minimum wage you never get career guidance! Funding for exposure to a variety of education/career settings, conferences, (Model U.N. for example) would be a significant boost to programming. Additional resources to identify and serve the gifted student who demonstrates talents not traditionally covered in academic pursuits (art, dance, outdoor/environmental concerns).

V-2 Consider once again making teacher recommendation a facet in placement of gifted students and de-emphasizing test scores (CAT, IQ) as the main criteria for selection. Many "gifted" students do not test all that well, and many "gifted test takers" do not exhibit great strength in the classroom.

B-2 We need more course work in gifted education provided in this part of the state so that regular classroom teachers could become AG certified. I really do not think that we should have to reevaluate AG seniors. Dismissal of AG seniors has caused bad public relations for the E.C. Program.

H-1 Any positive change that would make the educational experience more challenging and worthwhile should be considered. The AG students at this school are wasting too much time in the heterogeneously-grouped classes where the instructor is teaching to the median. This is especially noticeable in grades 9 and 10 in the History classes.

W My major concern for GT students overall is that many programs (teachers) tend to believe that more work is better and that these students are expected to be "model citizens," and are often criticized if they are not. Suggestion: All GT certified people should have an internship in a program similar to N.C.G.C. Also, every classroom teacher should be exposed to one or two courses dealing with traits of GT and methods of teaching.

H-2 The paper work is an unpleasant task to have to do in addition to the teaching responsibilities. More help with this would be appreciated.

R It appears to me that the gifted program would be strengthened and in addition the high school would benefit from giving one or two teachers extra periods to work on research projects with gifted students. In my opinion, money should be allocated to give teachers time and resources to teach and direct the learning of gifted students, since they work with these students on a daily basis and are responsible directly for their progress. TIME to plan and react with students is the key factor in working with gifted students.

G-2 I received this form at 11:30 a.m. I was asked to complete and return it by 3:30 p.m.—same day. I also had to teach 3 classes and meet with a consultant. Good suggestions take thought and planning. I have had time for neither.

Table 6.19 (cont.)
Question 16, Teacher Questionnaire

R	AG teachers should have more planning time in order to prepare lessons of a suitable caliber. With individual conferences, students could profit immeasurably.
C-2	The concept of a center has been an "eye-opener" for me. Never have I seen students so "turned-on" to learning and so interested in course work. The flexible, broader time frame with emphasis on student participation has liberated the minds of my students. It works!
J-2	The school system to which our school belongs recognizes an AG student/program for each school, but instructional endeavers are at the discretion of each school and each teacher. A school-based program for AG should be instituted similar to that for EMH and LD's at the opposite end of the educational strata.

Chapter 7—Results of Counselor Survey

The method of presentation of results of the counselor survey will be to follow the order of the questionnaire, adding relevant summaries of comments as they occur. Except where noted, all results are expressed as percentages and the sample sizes are as follows: Grade 3, n = 11-13; Grade 8, n = 34-35; and Grade 12, n = 22.

Questions 1 and 2 of the survey asked the counselors to describe the role of counseling in the gifted education program in their schools and to describe the specific counseling services administered to the students selected to be in the study. The percentage of counselors responding in each of the categories is given in Tables 7.1 and 7.2.

Table 7.1
Question 1, Counselor Questionnaire

What part does counseling play in the education program for gifted students in the above school? Please consider identification, career advice, indirect services through teachers, and direct services to students.

3	8	12	
			Group Sessions
61.5	31.4	17.1	• Various topics
0.0	11.4	0.0	• Values, self-concept, motivation, decision-making, & goal setting
7.7	2.9	0.0	• Educational problems
0.0	2.9	0.0	• Expectations of AG program
0.0	40.0	20.0	• Career planning
0.0	22.9	14.3	• Educational planning/HS transition
			Individual/Personal Counseling
53.8	68.6	45.7	• Problems & needs
0.0	14.3	17.1	• Educational & career planning
			Testing & Evaluation
38.5	54.3	40.0	• Identification, screening, & placement

Table 7.1 (cont.)
Question 1, Counselor Questionnaire

3	8	12	
			Recommendations
7.7	22.9	17.1	• Special programs, referrals, etc.
0.0	20.0	25.7	• Scheduling/course selection
			Information
0.0	17.1	17.1	• Enrichment opportunities, camps, & summer programs
0.0	5.7	34.3	• Institutions of higher learning/Scholarships
0.0	2.9	0.0	• Financial aid for testing
0.0	2.9	11.4	• Career exploration
			Resources
0.0	2.9	5.7	• Guest speakers
7.7	2.9	2.9	• Materials
			Organization
0.0	2.9	0.0	• Creates special opportunities
0.0	5.7	5.7	• Parent/Teacher conferences
15.4	22.3	14.3	• Works with Parents
15.4	5.7	5.7	• Paperwork
			Working with Teachers
7.7	8.6	5.7	• How to identify AG students
0.0	2.9	2.9	• Enrichment applications
7.7	5.7	5.7	• Program planning
23.1	17.1	20.0	• Monitors student progress in courses
7.7	14.3	11.4	• General resource
0.0	2.9	5.7	None

Over half of all counselors surveyed indicated that individual counseling—for either problems and needs or educational and career planning—was an important role of counseling in the gifted program in their school (53.8% of Grade 3 counselors, 82.9% of Grade 8 counselors, and 62.8% of Grade 12 counselors). The most frequent role of counselors working with Grade 3 AG students was the administration of group counseling sessions that covered various topics (listed by 61.5% of the counselors), i.e., programs that implement the NC Guidance curriculum or programs that deal with problem-solving or stress.

In Grades 8 and 12 the second most frequent counseling role was Testing and Evaluation (listed by 54.3% in Grade 8 and 40.0% in Grade 12). Testing and Evaluation consists of the identification, screening, and placement of students within the AG program and the testing for special enrichment opportunities.

The counselor's task of information dissemination concerning enrichment opportunities, institutions of higher learning, and career exploration increased in frequency from Grade 3 to Grade 12, with most of the information in Grade 12 concerning college admissions—applications and scholarships (listed by 34.3%). From Grade 3 to Grade 12 there was also an increase in the proportion of schools that did not offer counseling services to students in the gifted education program (0.0% in Grade 3, 2.9% in Grade 8, and 5.7% in Grade 12).

Question 2 asked counselors to decribe the specific services they have given to the students selected for this study. It was felt that this specificity might bring some of the practices into focus. The percentage of counselors responding in each category is given in Table 7.2.

Table 7.2
Question 2, Counselor Questionnaire

What counseling services have been provided this year for the students mentioned in the introduction for the questionnaire?

3	8	12	
			Group Sessions
73.7	27.7	4.7	• Various topics
5.3	3.1	4.7	• Values, self-concept, motivation, decision-making, etc.
0.0	3.1	0.0	• Expectations of AG program
0.0	29.2	37.2	• Career planning
0.0	15.4	32.6	• Educational planning/HS transition
			Individual/Personal Counseling
31.6	47.7	37.2	• Problems & needs
5.3	18.5	25.6	• Educational & career planning
			Testing & Evaluation
10.5	3.1	0.0	• Identification, screening, & placement
			Recommendations
5.3	1.5	25.6	• Special programs, referrals, etc.
0.0	12.3	0.0	• Scheduling/course selection
			Information
0.0	9.2	7.0	• Enrichment opportunities, camps, & summer programs
0.0	4.6	63.0	• Institutions of higher learning/Scholarships
0.0	1.5	14.0	• Career exploration
			Resources
0.0	0.0	4.7	• Guest speakers
5.3	0.0	0.0	• Materials
			Organization
0.0	0.0	9.3	• Creates special opportunities
5.3	1.5	0.0	• Parent/Teacher conferences
10.5	16.9	0.0	• Works with Parents
			Working with Teachers
0.0	1.5	0.0	• Enrichment applications
0.0	1.5	0.0	• Program planning
0.0	1.5	0.0	• Monitors student progress in courses
0.0	12.3	4.7	None

Individual counseling was one facet of the counseling services within the gifted education program. In Grade 3, 31.6% of the counselors meet individually with AG students to discuss personal and social problems. In Grade 8, the percentage increased to 47.7%. In Grade 12 the percentage was 37.2%.

For the sampled students in Grade 3, 73.7% of the counselors administered the majority of counseling services in the form of group guidance sessions (once per week or biweekly for 30 minutes). In Grade 8, the sampled students participated in group guidance programs that covered various topics (listed by 27.7% of the counselors) or focused specifically on career exploration and planning—speakers, inventories, 2-week career programs, etc. (listed by 29.2%). In Grade 12, the sampled students received guidance services that dealt specifically with career planning (listed by 37.2%), educational planning (listed by 32.6%), and college and post-secondary education (listed by 63.0%).

If we compare the results of Questions 1 and 2, we find that the students selected in the sample received the same typical counseling services as all AG students within the school.

Questions 3 and 4 examined the strengths and weaknesses of the gifted education programs in the sample. Table 7.3 (Question 3) summarizes the percentages of counselors' responses concerning the strong points of the gifted education program in their school and Table 7.4 (Question 4) summarizes the percentages concerning the weak points.

The categories in Tables 7.3 and 7.4 are defined as follows:

Curriculum:	Responses that related to curriculum content
Students:	Responses that related to how students were selected or grouped
Time:	Responses that related to how much time students were to spend studying
Environment:	Responses that related to facilities, equipment, and non-curricular materials
Management:	Responses that related to how curriculum, students, time, and the environment were managed to achieve goals and objectives
Outcomes:	Responses that indicated what outcomes were expected

Table 7.3
Question 3, Counselor Questionnaire

From your point of view, what are the strong points of the current gifted education program in your school?

3	8	12	
36.4	46.9	68.2	Curriculum/Program
18.2	9.4	9.1	Students (grouping)
0.0	3.1	4.5	Time
0.0	3.1	0.0	Physical Environment
72.7	81.3	63.6	Management
0.0	3.1	4.5	Outcomes

n=32

Table 7.4
Question 4, Counselor Questionnaire

From your point of view, what are the weak points of the current gifted education program in your school?

3	8	12	
9.1	26.5	36.4	Curriculum/Program
9.1	11.8	9.1	Students (grouping)
45.5	11.8	0.0	Time
9.1	17.6	13.6	Physical Environment
72.7	64.7	45.5	Management
0.0	0.0	4.5	Outcomes

The majority of all counselors stated that the management of the program was a strong point of the gifted education program in their school (72.7% in Grade 3, 81.3% in Grade 8, and 63.6% in Grade 12). At the same time, management was also mentioned as a weakness of the program (Table 7.4—72.7% in Grade 3, 64.7% in Grade 8, and 45.5% in Grade 12). This contradiction underscores the counselors' concern over having an insufficient number of AG-certified teachers working with the gifted students. The counselors felt that the current teachers were excellent, but more AG-certified teachers from other content areas were needed to develop the gifted education program to the fullest.

Forty-five percent of the counselors in the Grade 3 sample stated that the limited amount of time identified students spent with AG teachers in special classes was a weakness of the gifted program in their school. This problem was not as evident in Grades 8 and 12.

Counselors in Grades 8 and 12 stated that the gifted education curriculum was a strong point of the program (36.4% in Grade 3, 46.9% in Grade 8, and 68.2% in Grade 12), but also a weakness (26.5% in Grade 8 and 36.4% in Grade 12). They felt that the courses and opportunities that were offered to the students were excellent, but more could be done by extending the gifted curriculum to mathematics, science, and foreign languages, and utilizing more outside resources for enrichment opportunities that do not duplicate the basic curriculum.

So far, counselors have described the counseling program in their school—the role of counseling in the gifted education program at their school, the counseling services provided to students selected for inclusion in this study, and the strengths and weaknesses of the program. Question 5 on the survey asked counselors to indicate how they would spend additional money to improve the gifted education program in their school.

The suggestions that counselors made concerning where additional money could be spent to improve the AG Program are described as follows:

Curriculum:	• Develop and expand the program to other grades, subjects, and/or the whole school; offer a greater variety of programs (i.e., accelerated, Honors, and AP courses)
Management:	• Funding for more AG teachers and staff—more AG-certified teachers so that more diverse courses could be offered, lower student/teacher ratio, self-contained AG classrooms; offer individualized instruction • Program awareness/development—in-service training and workshops to help with the teaching of AG students within the regular classroom; share concerns with parents • Support services—clerical and guidance counselors
Environment:	• Materials: books, sets of novels, software, encyclopedias, supplemental texts • Equipment: computers, video cameras, calculators, science instruments, TV, VCR

A summary of the frequency of the comments made by counselors is presented in Table 7.5.

Table 7.5
Question 5, Counselor Questionnaire

If funds were available, what would be your priorities for adding to the gifted program at your school?

Priority	Priority 1			Priority 2			Priority 3		
	3	8	12	3	8	12	3	8	12
Curriculum:—Further development									
• within the school	10.0	37.5	40.9	10.0	22.2	25.0	42.9	26.7	8.3
• outside resources	10.0	6.3	4.5	30.0	7.4			26.7	25.0
Management									
• Funding for more AG Teachers and Staff	40.0	43.8	36.4		11.1	6.3		20.0	8.3
• Program Awareness/ Development									
Teachers & Other Staff		3.1			11.1	12.5		13.3	
Parents					3.7	6.3			
• Support Services		6.3	18.2	30.0	14.8	12.5			25.0
Environment									
• Materials	10.0	18.8	4.5	10.0	18.5	25.0	42.9	13.3	25.0
• Equipment	30.0	12.5	4.5	20.0	11.1	25.0	14.3	13.3	16.7
Miscellaneous	10.0		4.5		3.7		14.3		8.3
	n=10	n=32	n=22	n=10	n=27	n=16	n=7	n=15	n=12

The percentage of counselors rating the funding of more AG teachers as a high priority was 40.0% in Grade 3, 43.8% in Grade 8, and 36.4% in Grade 12. Grade 12 counselors stated that the highest priority was the further development and expansion of the curriculum within the school (mentioned by 40.9%).

For Grade 3 counselors, the further development of the curriculum with outside resources and additional support service personal were the second priorities (listed by 30.0% each). The further development of the program within the school and additional materials (listed by 42.9% each) were the third priorities.

Grade 8 counselors stated that the expansion of the curriculum within the school was their second priority (listed by 37.5% as first priority and 22.2% as second priority). The development of the curriculum within the school and with outside resources were the third priorities (listed by 26.7% each).

Grade 12 counselors stated that the further expansion of the gifted program within the school, additional materials, and more equipment were their second priorities for increased funding (listed by 25.0% each). The development of the curriculum with outside resources, additional materials, and additional support personnel were the third priorities (listed by 25.0% each).

Question 6 on the survey asked the counselors to provide any additional suggestions they had concerning the gifted education program in their school. The results are presented in Table 7.6 below.

Table 7.6
Question 6, Counselor Questionnaire

Other Comments:

Below are the additional suggestions, grouped by grade level, made by the counselors.

■ Grade 3

L[a] Early intervention is important to develop appropriate leadership skills and motivation.

H I have observed gifted students from 3rd to 12th grade. I find their label to be a difficulty, most particularly if they become ungifted along the way. I find their parents have little understanding of what giftedness is or what it equates with in terms of academic achievements or lack thereof. I believe that it is time that the industry defines giftedness appropriately before we further damage students and families with our folly. It has been my experience that a truly gifted child will demonstrate his giftedness. If we are talking enrichment, let's give every child the opportunity to excel.

F Consideration of a Magnet School where the top AG students would receive more services.

A Because of Magnet status, we are identifying "school identified" AG plus "state identified." Therefore, aiding is lowered, and we end up with a heterogeneous group.

■ Grade 8

L-1 As a whole, I receive very few complaints regarding the caliber of instruction and the level of academic challenge available to our AG students. We have a strong Math/ Language Arts program. From time to time, I feel we have academically gifted students whose needs are not necessarily being met in our school.

L-2 We feel that our AG program meets the needs of our students and allows the students the opportunity to progress at a faster pace with challenging material.

[a] To preserve anonymity, counselors are designated by letters. A letter followed by a number indicates different school programs within an LEA.

Table 7.6 (cont.)
Question 6, Counselor Questionnaire

H-2	Instead of a pull-out enrichment program that we currently have, I would suggest that the AG teacher serve these students on a daily basis during part of the Language Arts block, preferably reading. This program could adapt itself well to explore many of the enrichment activities currently done, plus provide students with an incentive since the AG teacher would be giving them a reading grade. All of the students read much above grade level; the regular classroom cannot often provide the experience necessary. In addition, regular classroom teachers wholeheartedly support this approach, as it prevents make-up work, absences from classes, etc.
S	I feel our Academically Gifted program has much substance. The literary exposure is quite substantial. However, I wish we could have more advanced studies in the areas of Math and Science.
E-2	We are located in an inner city environment and are a small junior high school. We have a large percentage of students that score low on the CAT.
C-2	There doesn't seem to be much of a difference between the AG classes and other classes. They may work at a more rapid pace but they do not use any special materials or equipment. Also at our school the assignment for AG teachers seems to be rotated from year to year. I feel that by doing this the Program loses a great deal of continuity.
F-2	I don't feel we do enough for students in AG past the elementary grades. These students should be recognized by their peers, teachers, administrators and counselors, and challenged in Academic areas. We need specified AG teachers to work one-on-one with these students.
Q	I truly feel that we need a regular teacher who is trained to deal with these special students. Due to the need of scoring high on the test, some students are put out of the program because of missing one or two points. The regular classroom teacher (in most cases) is not equipped to deal with this student but instead will use the student as a tutor for others and the gifted student becomes dormant.
A-1	It is very difficult to meet the needs of the AG students when a grade-level counselor has 600+ students and parents. At this school I have 600+ students, plus I am Dept. Chair, and testing coordinator. Our grade-level-two counselors also have a major part in elective arena registration. I serve on the Asst. team and as a counselor mentor and trainer for Program X.

■ Grade 12

V-1	I am very proud of our gifted program. It just needs to be extended to a broader curriculum.
O	Our counselors make every effort to work with our gifted and talented students. We make them cognizant of test dates, career and academic summer experiences, Governor's School, etc. We encourage them to explore career opportunities and have many speakers on campus to discuss opportunities.

Table 7.6 (cont.)
Question 6, Counselor Questionnaire

L-2	The AG consultants we have now, and in the past, have been so helpful to us. Their jobs are so enormous and because they serve so many schools, their time with us is limited.
K-1	Will the students benefit from our suggestions, concerns and comments?
H-1	I feel we have an excellent program. Our students have the opportunity to excel and qualify for special programs.
B-1	Other than the Governor's School nomination process, there appears to be very little the AG program offers its students on the senior high school level. Hopefully this will continue to improve with guest lecturers and other enrichment activities.
H-2	I am assigned 12th-grade students. No counselor actually follows or works directly with these students during their entire school career.
R	Considering all options available at present time, plus the location of our school, I personally feel that we are serving our high school students well in the framework of the AP and the Advanced Classes we offer. There is always room for improvement and we are certainly no exception.
F-1	I feel that there has been a decline of interest, and perhaps apathy, from parents and students towards the gifted program. There is not the interest and/or support that there was when I started 12 years ago (this is purely one person's observations). As stated earlier, we need to "re-educate and resell" the gifted program in our public schools.
F-2	Public school counselors at this school subscribe to an egalitarian philosophy, yet with a student to counselor ratio of ±400:1, we are hard-pressed to respond to the hour-by-hour needs of every student or parent who darkens our doors. Since the bulk of our students fall within the center of the bell-curve, the bulk of our energy is directed to these students. This is the "nature of the beast." A healthier student-to-counselor ratio and machines and clerks to do extraneous paperwork would best serve AG and others.
A-2	Desperate need to provide counseling and other support services for underachieving and at-risk gifted students. Need to involve more minority students.

Question 7 on the Counselor Questionnaire asks the counselors to define the extent of the gifted population within their school as a function of the total population of the school (Table 7.7).

Table 7.7
Question 7, Counselor Questionnaire

What is the current student ADM and number of academically gifted students by grade level in your school?

The results are presented below by grade with the proportion of students per grade formally identified as Academically Gifted computed in the last column. Dashes indicate missing data.

School Code	Grade	Average Daily Membership	Number of Gifted Students Formally Identified	Percentage of Grade Identified as Gifted
■ Grade 3				
O	K	90	0	0.00
	1	87	0	0.00
	2	70	0	0.00
	3	84	5	5.95
	4	90	12	13.33
	5	78	7	8.97
L	1	–	6	–
	2	–	12	–
	3	–	10	–
	4	–	1	–
	5	–	1	–
H	3	107	2	1.87
	4	120	28	23.33
B	K	193	0	0.00
	1	184	6	3.26
	2	163	1	0.61
	3	150	4	2.67
	4	163	7	4.29
	5	173	12	6.94
	6	140	6	4.29
S	K	–	0	–
	1	–	0	–
	2	–	4	–
	3	–	11	–
	4	–	19	–
	5	–	11	–
D	3	–	33	–
	4	–	31	–
	5	–	22	–

Table 7.7 (cont.)
Question 7, Counselor Questionnaire

School Code	Grade	Average Daily Membership	Number of Gifted Students Formally Identified	Percentage of Grade Identified as Gifted
E	2	0	0	0.00
	3	71	3	4.23
	4	80	6	7.50
	5	98	6	6.12
	6	78	6	7.69
F	2	84	4	4.76
	3	71	4	5.63
	4	69	4	5.80
	5	62	4	6.45
Q	1	86	1	1.16
	2	59	0	0.00
	3	61	2	3.28
	4	69	3	4.35
	5	60	4	6.67
	6	64	2	3.13
A	K	113	0	0.00
	1	94	0	0.00
	2	107	14	13.08
	3	105	26	24.76
	4	154	57	37.01
	5	156	57	36.54
I	K	73	0	0.00
	1	80	1	1.25
	2	80	5	6.25
	3	74	2	2.70
	4	84	9	10.71
	5	68	12	17.65
■ Grade 8				
T	7	367	33	8.99
	8	418	40	9.57
	9	391	29	7.42
O	4	160	8	5.00
	5	190	0	0.00
	6	150	9	6.00
	7	150	4	2.67
	8	160	12	7.50

Table 7.7 (cont.)
Question 7, Counselor Questionnaire

School Code	Grade	Average Daily Membership	Number of Gifted Students Formally Identified	Percentage of Grade Identified as Gifted
L-1	7	–	21	–
	8	–	28	–
L-2	6	231	22	9.52
	7	264	16	6.06
	8	272	21	7.72
P	6	110	8	7.27
	7	120	6	5.00
	8	101	2	1.98
K-2	7	–	47	–
	8	–	55	–
K-1	7	228	21	9.21
	8	246	27	10.98
M	6	–	13	–
	7	–	14	–
	8	–	17	–
H-1	6	376	55	14.63
	7	404	38	9.41
	8	384	40	10.42
H-2	6	252	22	8.73
	7	267	23	8.61
	8	270	22	8.15
B-1	7	374	23	6.15
	8	375	17	4.53
	9	357	22	6.16
B-2	7	–	5	–
	8	–	8	–
	9	–	17	–
S	6	143	6	4.20
	7	182	12	6.59
	8	162	10	6.17
U	7	180	23	12.78
	8	190	20	10.53
	9	156	19	12.18

Table 7.7 (cont.)
Question 7, Counselor Questionnaire

School Code	Grade	Average Daily Membership	Number of Gifted Students Formally Identified	Percentage of Grade Identified as Gifted
D-2	6	–	31	–
	7	–	28	–
	8	–	25	–
D-1	6	219	43	19.63
	7	191	24	12.57
	8	199	12	6.03
E-1	7	189	9	4.76
	8	202	10	4.95
	9	169	6	3.59
E-2	6	–	39	–
	7	–	21	–
	8	–	31	–
C-2	6	–	27	–
	7	–	18	–
	8	–	19	–
R	5	–	0	–
	6	–	32	–
	7	–	0	–
	8	–	13	–
W	6	86	16	18.06
	7	191	18	9.42
	8	227	17	7.49
F-1	7	–	100	–
	8	–	93	–
	9	–	86	–
F-2	6	118	6	5.08
	7	138	10	7.25
	8	155	4	2.58
Q	7	111	5	4.50
	8	111	4	3.60
N	5	–	8	–
	6	–	10	–
	7	–	5	–
	8	–	5	–

Table 7.7 (cont.)
Question 7, Counselor Questionnaire

School Code	Grade	Average Daily Membership	Number of Gifted Students Formally Identified	Percentage of Grade Identified as Gifted
G-1	8	356	60	16.85
	9	332	52	15.66
G-2	4	–	8	–
	5	–	10	–
	6	–	5	–
	7	–	2	–
	8	–	3	–
J-2	5	101.4	0	0.00
	6	102.3	0	0.00
	7	102.3	5	4.89
	8	95.1	1	1.05
A-1	6	375	97	25.87
	7	375	93	24.80
	8	350	67	19.14
A-2	7	257.8	53	20.56
	8	280	63	22.50
	9	210	34	16.19
I-1	6	107	12	11.21
	7	104	10	9.62
	8	112	5	4.46
I-2	6	136	9	6.62
	7	106	12	11.32
	8	146	6	4.11
■ Grade 12				
V-1	9	–	4	–
	10	–	10	–
	11	–	8	–
	12	–	8	–
V-2	9	102	8	7.84
	10	91	6	6.59
	11	78	8	10.26
	12	96	6	6.25

Table 7.7 (cont.)
Question 7, Counselor Questionnaire

School Code	Grade	Average Daily Membership	Number of Gifted Students Formally Identified	Percentage of Grade Identified as Gifted
O	9	172	5	2.91
	10	152	6	3.95
	11	118	6	5.08
	12	120	3	2.50
L-1	9	322	27	8.39
	10	315	22	6.98
	11	304	21	6.91
	12	357	18	5.04
L-2	9	326	24	7.36
	10	298	17	5.70
	11	298	20	6.71
	12	279	19	6.81
K-1	9	–	18	–
	10	–	24	–
	11	–	39	–
	12	–	27	–
H-1	9	–	11	–
	10	–	11	–
	11	–	17	–
	12	–	5	–
B-1	10	–	37	–
	11	–	26	–
	12	–	19	–
B-2	10	–	39	–
	11	–	31	–
	12	–	26	–
S	9	234	12	5.13
	10	189	17	8.99
	11	172	10	5.81
	12	146	12	8.22
H-2	10	409	29	7.09
	11	349	27	7.74
	12	355	31	8.73

Table 7.7 (cont.)
Question 7, Counselor Questionnaire

School Code	Grade	Average Daily Membership	Number of Gifted Students Formally Identified	Percentage of Grade Identified as Gifted
W	9	243.4	36	14.79
	10	195	21	10.77
	11	186	17	9.14
	12	209.5	20	9.55
C-1	9	293	33	11.26
	10	298	30	10.07
	11	301	27	8.97
	12	314	25	7.96
C-2	9	–	32	–
	10	–	27	–
	11	–	25	–
	12	–	16	–
R	9	349	26	7.45
	10	320.5	11	3.43
	11	288.6	12	4.16
	12	262.2	17	6.48
F-1	10	606	41	6.77
	11	475	44	9.26
	12	374	22	5.88
F-2	10	539	83	15.40
	11	520	67	12.88
	12	510	82	16.08
G-1	9	305	23	7.54
	10	271	21	7.75
	11	263	13	4.94
	12	225	19	8.44
G-2	9	241	15	6.22
	10	176	9	5.11
	11	140	6	4.29
	12	140	9	6.43
A-2	9	488	60	12.30
	10	454	37	8.15
	11	456	30	6.58
	12	451	30	6.65

Table 7.8
Question 7—Summary, Counselor Questionnaire

The percentage of students formally identified as academically gifted within a grade is summarized below by grade level (complete data only):

	Mean	SD	Median	Range
3	7.13	8.96	4.35	0.00–37.01
8	8.86	5.92	7.50	0.00–25.87
12	8.65	2.92	7.36	0.00–16.08

The large ranges for Grades 3 and 8 are due to the fact that some of the schools sampled are Magnet schools. For all three grades levels, the proportion of students formally identified as academically gifted within a school is above the state cap for funding (3.9%).

Chapter 8—Superintendent and Principal Comments

Superintendents and principals in the study sample were asked to give a brief statement of the conceptual structure of their programs and how the programs were carried out. It was hoped that this might allow some program generalizations to be made, but in fact it only confirms the uniqueness of each program at the LEA level, the school level, and the level of the individual student.

From a study of the descriptions offered by superintendents and principals in the sample (71% and 69% of whom responded), we can see a continuum of delivery systems based on the degree to which AG students are segregated from other students for purposes of instruction and the degree to which some non-traditional program content is introduced.

Grouping for AG instruction in K-8

For elementary and middle school, one end of the grouping continuum envisions a model of service delivery where the AG student is taught in regular classrooms and every classroom teacher has an AG certification endorsement (requiring 12 academic hours of study through courses or workshops). In this view, AG instruction is simply one aspect of classroom teaching, an ability that every teacher should possess.

At the other end of the continuum is a service delivery system that gathers AG students from throughout the LEA and concentrates them in classrooms in special schools, where they are taught a special curriculum by special teachers. This first model readily lends itself to enrichment, the second to acceleration, but these are not necessary consequences of the different methods of grouping.

Between these two extremes are found every imaginable combination of possible groupings—pull-out from regular classes for less than a class period per day, grouping of AG students for one class per day, grouping of AG students for several hours per day, sending of AG students to classes in other public schools or to colleges, individual time spent by a student with a mentor, etc.

Along the second dimension are those programs that contain no conventional curriculum content versus those that simply stretch the scope of existing courses.

Grouping for AG instruction in high school

AG instruction in high school builds on a system that has to a substantial degree already adapted to individual differences by grouping. In high school, a differentiation of courses within basic fields such as mathematics and science forces a certain degree of ability grouping. Even within these special disciplines, however, further differentiation occurs under the titles "honors" or "Advanced Placement" courses. These differentiations were made desirable by the evident differences among students in ability and aspirations. These types of courses existed in one form or another long before the academically gifted education program was formally inaugurated. They form the preponderance of advanced courses taken by students who are formally designated as academically gifted (e.g., see Table 4.6).

The Advanced Placement courses are regarded by some as being more advantageous for the student than a similar program carried out as an AG course. It is a fortunate student; however, who has the option of taking either AP or AG Biology, for example. Usually options are much more limited. AG education has extended the opportunities by permitting the introduction of some AG classes in advanced courses. These represent an additional opportunity for the gifted student. Frequently, other high-scoring students are included in these classes.

Within the high school curriculum, the student must take four years of English. The English courses are not differentiated to the same degree as science and mathematics courses, where not everyone is expected to attempt the more difficult courses such as Physics or Calculus. Everyone takes all four of the English courses. Differentiation must occur, however, because some seniors are still attempting to pass their basic skills tests (Grade 8 level) while other seniors are well into college-level (AP) subjects, and this creates a very difficult problem for homogeneous grouping. The nature of the differentiation now occurring across the state is not well understood and the means of handling the problem brings up some of the same questions that challenge the AG program. Debates are heard as to whether teachers can or should attempt to teach Shakespeare or Moliere to students who have not yet learned to read or write.

Perhaps it is the lack of curriculum differentiation in English that leads to the frequency in high school of AG English courses (as opposed to AG mathematics or science courses). If that is the reason, then the same problem must exist in some form in Grades K-8, because the AG teacher certification there is frequently added to a humanities (Language Arts/Reading/English/Social Studies) type of certification.

Curricular content of AG instruction

Alexander Pope wrote that the best program is the one that is best administered. That catches only part of the truth. A particular kind of program brings with it characteristics that make it easy or difficult to administer well. Ease of administration certainly is a factor in selecting an AG program that calls for homogeneous or heterogeneous grouping of students.

The method of service delivery, however, is a secondary concern in relation to content, and that is where little is known about that portion of the AG program funded solely by AG funds. The AG program for each student is guided by the student's GEP (group educational program), which is prepared by the school- based individualized education program committee. It seems evident that the committee cannot develop a special curriculum and staff in order to satisfy the needs of one or two students, but rather must draw on existing resources (although mentors are occasionally used). The typical elementary school GEP covers a class taught by the AG teacher in her line of expertise to all of the AG students at one or more grade levels. The classes may include non-traditional subject matter developed locally to satisfy the conceptual concerns of individuals having a special interest in AG education. Many of these programs may fall in the class Fetterman (1988) called "vulnerable and shaky." The students may like the programs, but it is only an article of faith that their time can be justified in competition with more conventional programs.

Comments of superintendents and principals were analyzed to determine what concerns they had about program structure. It was noted that most initiative and concern were centered at the LEA level, with most principals regarding their role as being one of actualizing LEA policy. In a sense, this was contradictory to the notion that the origins of the programs were in the school-based Group Education Program (GEP), which would call for bottom-up planning rather than top-down planning. Testing, however, indicates that the needs of AG students are quite general and center not on qualitative, discrete differences, but on general learning power. This would make their needs quite general, particularly at the Grades K-8 levels.

Superintendent (LEA) Comments

The concerns of superintendents are summarized in Table 8.1. Seventeen of the 24 superintendents in the survey replied. Multiple responses are included.

Table 8.1
Summary of comments by superintendents

General topics of needs	Number of comments
Curriculum (courses of study, books, and other content materials)	19
Students (identification, placement, grouping)	38
Environment (classroom space, equipment, materials)	4
Time (amount of time to be spent on a topic)	2
Management (teachers, staff development, scheduling, and other means of managing resources)	28
Outcomes (specific outcomes to be expected from AG instruction)	0

Students

It is evident at once that the most frustrating aspect of the AG program was the means of identifying the students. Ten of the "Students" comments were regarding funding, 7 asking for funding of all students who would be identified by the current ID procedures (apparently about 5.8% of enrollment rather than the 3.9% currently allowed, but much higher in some LEA's than others), one asking that the AG funds be separated from special education funds, one asking for money to fund AG IQ testing, and another asking for funds to enlarge the program.

Eighteen comments concerned the method or consequences of identification, the largest number calling for means that would identify more minority students, four pointing out technical problems with ID, two calling for an end to "ungifting," and one each suggesting that performance, not aptitude, be used for ID, that the program also serve high ability students regardless of points, one suggesting that elitism be reduced, and one suggesting that K-2 be enriched generally and ID made at Grade 3. Other comments were: (2) Extend program to K-2, (1) provide motivation solutions; reward student ability with state-funded scholarships, etc.; improve AG/LD services; increase flexibility along all lines; serve emotional needs; inform parents regarding limitations and advantages of being a gifted child; and allow students to assume responsibility for their AG education.

Management

As might be expected, the means of putting the program together and keeping it running was of great concern. We note here and in the next section on curriculum that administrators find the irregularities of AG education to be a constant source of administrative stress and that they constantly seeks ways to smooth out the process. That was also reflected in the "Students" section above, where the irregular number of students and pressures to make exceptions to the identification process created substantial management problems.

One way of dealing with the shortage of AG teachers is simply to qualify the entire teaching staff in AG education. This is possible because, as an endorsement to an existing certification, only 12 additional academic hours of instruction are required. Eleven superintendents wanted more money for staff development in AG education, some specifying that it lead to certification. At least two of the school systems had as their goal the AG certification of the entire teaching staff. In connection with this, several other desires were mentioned: a standard course of study for AG teacher education; a procedure to identify potential AG teachers; and a program to improve the attitude of regular teachers toward AG education. Five LEA's asked for more AG teachers, three for more administrative personnel to deal with the paperwork, and two for more counseling services (more counselors).

Other managerial concerns were not as great: one suggestion to utilize computer technology to manage information on summer programs and scholarship; one suggestion to explore summer programs; and one suggestion to reduce paperwork.

Curriculum

Another area of substantial concern to superintendents was the matter of curriculum. Because of their significance, the comments on needs are given verbatim:

B. "A statewide curriculum for the gifted built upon the skills and objectives listed in the various curricula areas of the BEP."

C. "Developing an articulated curriculum K-12 and an appropriate service delivery model.

Developing an Academically Gifted Program in Science at the 7th-11th grades.

Providing more options in Mathematics for Academically Gifted students at all levels."

D. "Possible extension of the AG program to K-2 students."

G. "Programming for the Highly Gifted. We need to devise special courses, week-end programs, or some other avenue to stimulate and motivate these students."

H. "Priorities for program expansion?
   a. increase areas of service delivery at high school
   g. Continue to strengthen curriculum in all areas.
   h. To explore summer program offerings."

I. "Program models for continuum of services"

J. "The program needs for Academically Gifted...are as follows:
   3. Curriculum Development"

K. "To develop a differentiated curriculum/program for gifted students at each grade level."

L. "The overall weaknesses of the school-based programs include the need for...continued curriculum development and differentiation for the Gifted."

"To develop a comprehensive and flexible curriculum or curriculum indicators to assist teachers in meeting the unique needs of the Academically Gifted student."

N. "1. Expansion of the program to include the grammar schools
   2. Establishment of Advance Placement programs in the high school

4. Advanced classes in additional subject areas for the gifted and high-level achievers."

O. "A more complete curriculum statement"

P. "...the integration of school-wide enrichment into the regular education curriculum."

R. "The development of a curriculum guide with specific goals and objectives by grade level and subject."

S. "to provide a program that enriches the basics [such as] Reading, Language Arts and Mathematics curricula and challenges the students to use problem-solving, decision making, and higher-level thinking skills."

Superintendents are concerned about the hodgepodge nature of many of the AG curricular offerings and wish to regularize the AG education process along the lines of the Basic Education Program, the rationality of which has contributed to a greater understanding of what is expected from elementary and secondary education.

Environment

Four requests were made for funds to buy materials, supplies, and equipment. In one case, video's, computers, and science equipment were listed.

Time

A few comments were made concerning advanced courses or an accelerated track, but none that indicated any concern with amount of time spent on a topic as a significant variable. One LEA suggested that students have an opportunity for acceleration. One suggestion was made to allow middle school students to take high school courses for credit and provide the funds to make this possible.

Outcomes

Conspicuous by its absence was any reference to outcomes expected for AG students, other than the general goal of actualizing their potentials—no test scores, no early graduation, no greater number of scholarships. In a sense, the call for a formal course of study for AG students points up the difficulty of establishing outcome expectations when no formal curriculum exists.

The fiscal priorities of superintendents are given in Table 8.2.

Table 8.2
Priorities for the Academically Gifted Program—Superintendents

Priority	Level of Priority First	Second	Third
Funding for more AG teachers and staff	4	2	2
Further curriculum development	6	5	6
Materials and equipment			2
Staff development/AG awareness AG and Classroom teachers	4	1	2
Support services		6	
Other			
Full funding for all AG students	2	1	2
ID/minorities	1		2
Evaluation system			1
Evaluate applicability of exceptional children administrative structure to AG children		1	

As would be expected, priorities flow from the concerns discussed earlier. The intentions are clear that it would be highly desirable to superintendents to smooth out the administrative bumps caused by the AG identification procedures, program definitions (the GEP's), and staff eligibility to teach AG students, and to consider the possibility of employing some administrative structure other than the one applied to exceptional children, which carries with it a due process rigidity and a lot of paperwork.

Principal Comments

One of the main roles of principals is to make parents, the general public, and others acquainted with their schools' excellent academic programs. Principals were generally enthusiastic about their schools' AG program. Program descriptions tended to be brief or to follow LEA program structures for AG education. Most principals did not choose to comment on any weaknesses in their AG programs, but the ones who did made the following comments:

Curriculum

Two high school principals expressed the need to expand the AG program into areas other than English. One middle school principal regretted the lack of an Advanced Placement program in high school.

Students

Three high school and one middle school principal noted that they had too few AG students for a separate program if pupil/teacher ratios were to be maintained. One middle school principal noted: Need to identify students early (K-1); identification process is too inflexible; the enrichment program was sometimes regarded by students as a reward for high achievement rather than part of the education; need to include primary schools in the AG program; need accelerated classes in Grades 7 and 8. One elementary and one middle school principal were concerned with the loss of regular class time when students were pulled out to go to AG classes.

Environment

Three middle and two high school principals indicated a need for supplementary educational materials.

Management

Principals had a wide variety of management concerns, most at the middle school level. They do not follow a very clear pattern and are summarized here as a list: (4) need more teachers, (2) trying to make everyone the same is our biggest mistake, (1) need more field trips; many regular teachers not prepared for AG students; need extra compensation for AG teachers due to extra planning requirements; too much paperwork; need clerical help for paperwork or reduce teacher's teaching load; need more communications among teachers regarding student opportunities; resources may be spread too thin; need more materials; need to have AG students together for instruction; need more contact between LEA program administrator and school personnel; more time needed for AG, but scheduling is a problem; need AG staff development and more staff development for regular teachers for purposes of understanding.

Outcomes

As with superintendents, outcomes were discussed in only the most general terms.

General Comments

This concludes the presentation of survey results for students, parents, teachers, counselors, principals, and superintendents. Although each view is inclined toward the particular responsibilities of the respondent, some issues have become clear. In the Conclusions section, Chapter 3, we have attempted to summarize the characteristics of the AG program as it now exists, note the issues, and project some of the alternatives for the future.

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